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2010 CENSUS PLANNING MEMORANDA SERIES

No. 233

MEMORANDUM FOR The Distribution List

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

Subject: 2010 Census Address List Update Program for Service-Based
Enumeration, Group Homes, and Carnival Locations Assessment
Report

Attached is the 2010 Census Address List Update Program for Service-Based Enumeration, Group Homes, and Carnival Locations Assessment Report. The Quality Process for the 2010 Census Test Evaluations, Experiments, and Assessments was applied to the methodology development and review process. The report is sound and appropriate for completeness and accuracy.

If you have any questions about this document, please contact Deborah Russell at 301-763-9383.

Attachment

2010 Census Address List Update Program for Service-Based Enumeration, Group Homes, and Carnival Locations Assessment Report

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

FINAL VERSION 1.0

Deborah Russell
Decennial Management Division



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Executive Summary

The purpose of the 2010 Census Address List Update Program for Service-Based Enumeration, Group Homes, and Carnival Locations Assessment Report is to document the results that the program contributed to the enumeration frame development across the United States and Puerto Rico. This report describes issues encountered while implementing the program and how they were resolved. It also provides lessons learned and recommendations to be used for historical purposes as well as planning for future census frame development programs.

The 2010 Census Address List Update Program for Service-Based Enumeration, Group Homes, and Carnival Locations supported the 2010 Census enumeration frame development effort. The program was implemented to ensure that the 2010 Census enumeration frame was most complete and to improve the Census Bureau's effort of providing an opportunity to enumerate people experiencing homelessness, as well as those living in group homes and carnival locations. This program was a component of the broader 2010 Administrative Records Updating Operation, under the 2010 Census Geographic Programs Operational Integration Team. The design of the program ensured that the 2010 Census enumeration frame was updated by using specialized procedures to update the addresses for the following types of locations:

- Service-based locations (shelters, soup kitchens, and regularly scheduled mobile food vans),
- Targeted Non-Sheltered outdoor locations,
- Group homes,
- Carnival, circus, and fair locations.

The 2010 Census Address List Update Program supported the 2010 Census enumeration frame development for the following operations:

- The 2010 Census Group Quarters Enumeration Operation,
- The 2010 Census Service-Based Enumeration Operation, and
- The 2010 Census Enumeration at Transitory Locations Operation.

The 2010 Census Address List Update Program obtained addresses and location description information from the following sources:

- Internet research was conducted to identify shelters, soup kitchens, regularly scheduled mobile food vans, and group homes.
- Highest Elected Officials at tribal, state, and local governments and members of National and State Advocacy Organizations were solicited to identify shelters, soup kitchens, regularly scheduled mobile food vans, and targeted non-sheltered outdoor locations.
- Carnival management companies were contacted to identify carnival, circus, and fair site locations.

The 2010 Census Address List Update Program was conducted over three phases:

- Phase One – Internet Research,
- Phase Two – Mail Solicitation, and
- Phase Three – Carnival Telephone Solicitation.

Results for All Three Phases

The National Processing Center collected 159,705 address records across all three phases of the 2010 Census Address List Update Program. After the Center for Administrative Records Research and Applications processed and edited the records, the Geography Division received 111,669 address records and accepted 110,026 of the address records received. Of the accepted address records, the entire update program yielded 26,417 new addresses and there were 83,609 address records that matched addresses already existing in the Master Address File/Topologically Integrated Geographic Encoding and Referencing Database (MTdb).

Of the 26,417 new addresses added to the MTdb, 3,603 addresses were enumerated in the 2010 Census; 153 housing units and 3,450 group quarters.

Of the 83,609 address records matching existing addresses in the MTdb, 40,530 addresses were enumerated in the 2010 Census: 11,730 housing units and 28,800 group quarters.

Results for Phase One -- Internet Research

The National Processing Center collected 105,780 address records during the Internet Research/Phase One of the Address List Update Program. After processing and editing, the Geography Division received 75,364 address records and accepted 74,841. Of the accepted address records, Phase One yielded 3,747 new addresses and 71,094 address records that matched addresses already existing in the MTdb.

Of the 3,747 new addresses added to the MTdb, 614 addresses were enumerated in the 2010 Census; 153 housing units and 461 group quarters.

Of the 71,094 address records that matched to addresses already existing in the MTdb, 30,751 matched to existing Other Living Quarters and Group Quarters addresses and 40,343 matched to existing Housing Units and Non-Residential addresses. The Geography Division marked the 40,343 address records that matched to Housing Units/Non-Residential addresses as Other Living Quarters in order for the addresses to be included in the 2010 Census Address Canvassing and Group Quarters Validation Operations workload universe to be validated and correctly classified.

Of the 40,343, address records that matched to Housing Units/Non-Residential, 15,001 addresses that were originally on the MTdb as Housing Units were reclassified and enumerated as Group Quarters in the final 2010 Census. There were 8,905 address records that matched to Housing Units/Non-Residential that were enumerated during the 2010 Census and remained housing units. There were 12,724 address records marked as housing units that were ineligible for the Universe Control and Management System due to actions taken during the 2010 Census Address Canvassing Operation and the 2010 Census Group

Quarters Validation Operation (duplicates and deletes). In addition, there were 366 housing unit addresses and 3,347 group quarters addresses not in the 2010 Census because they had zero population.

Results for Phase Two – Mail Solicitation

The National Processing Center collected 53,497 address records during the Mail Solicitation/Phase Two of the Address List Update Program. After processing and editing, the Geography Division received 35,877 address records and accepted 35,159. Of the accepted address records, 12,515 matched to addresses already existing in the MTdb and 22,644 new addresses were added to the MTdb.

Of the 22,644 new addresses added to the MTdb, 19,655 addresses were not in the 2010 Census. The primary reason was the large number of group quarters with an enumeration status code as “vacant”. This accounted for 14,770 (75.1 percent) the total number of addresses that were not in the final 2010 Census. Of the vacant group quarters, 14,604 were vacant targeted non-sheltered outdoor locations. Of the 22,644 new addresses added to the MTdb, 2,989 were in the 2010 Census as group quarters.

In looking at the 12,515 address records that matched to addresses already existing in the MTdb, 3,440 addresses were in the final 2010 Census, 3,420 as group quarters and 20 as housing units. Of the matched addresses from Phase Two, there were 9,075 address records that were not in the 2010 Census. The primary reason why the 9,075 addresses that matched addresses already in the MTdb were not in the 2010 Census was that the group quarters had no population counts and were returned with an enumeration status code of vacant, duplicate, non-residential, and non-existent.

Results for Phase Three – Carnival Telephone Solicitation

The National Processing Center collected 428 address records during the Carnival Telephone Solicitation /Phase Three of the Address List Update Program. The Geography Division accepted 26 address records and added them to the MTdb. There were 397 carnival companies contacted, only 26 were identified as valid carnival sites and included in the 2010 Census enumeration frame. This assessment is unable to provide information on whether these addresses were in the 2010 Census because, by design, that data do not exist because there was no linkage between the 26 transitory locations and the number of units at the location.

Key Lessons Learned

The key lessons learned from the 2010 Census Address List Update Program include the following major successes and challenges:

Successes

- Engaging in partnerships early during the planning stages of the 2010 Census Address List Update Program allowed members of the Census Advisory Committees, Race and Ethnic Advisory Committees, and Field Partnership Assistants to become aware of the activities surrounding the service-based frame update program. The partnerships provided an opportunity

for the Census Bureau to employ their assistance to influence their constituents to support the Bureau's efforts for collecting service-based locations.

- The telephone follow-up activity was not planned, but implemented, due to the low response rate from the governmental units and advocates. While attempting to investigate the cause of the low response, it was determined that the mail solicitation packages that the Census Bureau sent were redirected to other officials. In addition, many mail packages were lost and/or misdirected.

Challenges

- Translating the letters and forms into Spanish for the mail solicitation materials took longer than originally planned causing schedule delays in numerous project activities.
- The source code used to distinguish which entity provided the Service-Based Enumeration address information was not maintained on the data collection files, therefore, the Census Bureau cannot provide data on the number of responses provided by the governmental units compared with the advocates.

Schedule

The 2010 Census Address List Update Program started as scheduled on March 19, 2007 but completed January 12, 2010, three days later than the baseline finish date due to late delivery of the supplementary file of targeted non-sheltered outdoor locations. The delay was precipitated by late receipt of targeted non-sheltered outdoor locations from the governmental units and national and state advocacy organizations. The file of targeted non-sheltered outdoor locations that the Census Bureau received late from the governmental units and advocates was originally scheduled to be delivered to the Field Division on January 8, 2010 but was delayed until January 12, 2010.

Cost

The 2010 Census Address List Update Program was allocated a \$4,458,352 budget. The actual expense for the program was approximately \$4,000,000 slightly under the budget by 10.3 percent.

Recommendations

- **Create a system at the Census Bureau to accept electronic data submissions in various formats from entities from which the Census Bureau requests address information to support frame development.**
- **Consider an ongoing effort to involve the governmental units and national and state advocacy organizations in the process to identify targeted non-sheltered outdoor locations for future enumeration as there is no known inventory of these places.**
- **Explore various methodologies to update address lists for shelters, soup kitchens, regularly scheduled mobile food vans, targeted non-sheltered outdoor locations, and group homes.**

- **Develop an alternative methodology to identify the enumeration frame for carnivals, circuses, and fairs to support future Enumeration at Transitory Location Operations.**

Conclusions

The 2010 Census Address List Update Program for Service-Based Enumeration, Group Homes, and Carnival Locations was effective as it supplemented the 2010 Census enumeration frame with addresses for group homes, service-based locations, carnival sites, and location descriptions for targeted non-sheltered outdoor locations and aided in the process for the addresses to be verified and correctly classified. The program added 3,603 new addresses in the final 2010 Census that yielded a census population count of approximately 10,000 people who may have been missed otherwise.

Overall

The National Processing Center collected 159,705 addresses across the entire 2010 Census Address List Update Program. There were 26,417 new addresses added to the enumeration frame for subsequent census operations, and of these, 3,603 (13.6 percent) were in the final 2010 Census; 3,450 as group quarters and 153 as housing units.

The new addresses collected from this update program supplemented the enumeration frame with addresses that enabled populations of people living or staying in group quarters to be included in the final 2010 Census. The addresses that were not in the final 2010 Census were verified during enumerations and had no population counts.

Phase One

The Internet Research conducted by the National Processing Center was an effective methodology for updating the Census Bureau's address frame with group quarters. During Phase One of the program, the National Processing Center collected 105,780 address records resulting in 3,747 new addresses being added to the 2010 Census Enumeration Frame; 461 in the final 2010 Census as group quarters and 153 as housing units.

The majority, 71,094 (95 percent) of the address records collected during Phase One matched to existing addresses on the MTdb. Of these matched records, 15,001 addresses were validated and correctly reclassified as a group home or as a service-based location during the 2010 Census Group Quarters Validation Operation.

Thus, it can be concluded that the Internet Research, conducted during Phase One of the 2010 Census Address List Update Program, was an effective methodology for identifying group homes, shelters, soup kitchens, and regularly scheduled mobile food vans.

Phase Two

The Census Bureau relied heavily on the highest elected officials at Governmental Units and members from National and State Advocacy Organizations to pre-identify addresses for shelters, soup kitchens,

regularly scheduled mobile food vans, and targeted non-sheltered outdoor locations where people experiencing homelessness could be found. Due to the extensive outreach to these entities, the National Processing Center collected 53,497 address records during the Mail Solicitation, Phase Two of the 2010 Census Address List Update Program. Of these, 22,644 were new addresses added to the 2010 Census enumeration frame, and 2,989 were in the final 2010 Census as Group Quarters.

The mail solicitation was most effective at collecting targeted non-sheltered outdoor locations as there is no known inventory or other sources available to obtain these locations. Of the new addresses that were vacant group quarters, the majority, 14,604 were vacant targeted non-sheltered outdoor locations. Unfortunately, this report does not have data to support the reasons why there was such a high volume of vacant targeted non-sheltered outdoor locations during the 2010 Census. Despite the Census Bureau's extensive effort to create an inventory of these places to provide an opportunity for people experiencing homelessness to be included in the decennial census, the Census Bureau still faces challenges to count such a mobile population.

Phase Three

The Carnival Telephone Solicitation conducted during Phase Three of the 2010 Census Address List Update Program was not an efficient methodology to update the census address frame for carnivals, circuses, and fairs. The Census Bureau contacted the carnival management companies between June and August 2009. Of the 397 carnival companies contacted, only 26 (6.55 percent) were identified as valid carnival sites and included in the 2010 Census enumeration frame; and 96 (24.2 percent) contacts from the carnival management companies asked to be called back in January 2010 because they did not have their carnival events schedules for 2010 available that far in advance and did not know where the venues would be located during the enumeration period for the 2010 Census Enumeration at Transitory Locations Operation.

Since there were so many companies that did not have their schedules available in the year prior to the 2010 Census, it indicates that perhaps the Census Bureau should consider developing an inventory of these locations in the year of the Decennial Census. In addition, the Census Bureau used the 2008 version of the carnival management listing that was outdated and included only stateside companies. It is suggested that the Census Bureau should attempt to find a more recent carnival listing for stateside companies and conduct research to determine whether carnival listings exist for Puerto Rico.

1. Introduction

1.1 Scope

The purpose of this assessment is to document results, lessons learned, and analysis from the 2010 Census Address List Update (ALU) Program for Service-Based Enumeration (SBE), Group Homes, and Carnival Locations. This assessment report will also define how the program improved the enumeration frame based on the number of addresses added to the 2010 Census enumeration frame across the United States and Puerto Rico for group homes, service-based locations, targeted non-sheltered outdoor locations, and carnival locations.

Specifically, this assessment report will do the following:

- document the number of addresses/locations obtained and include the sources,
- discuss the lessons learned for all aspects of the program, and
- describe the procedures used to obtain the addresses and locations that updated the 2010 Census enumeration frame: the Internet research, the mail solicitation and the carnival telephone solicitation.

Documentation from this report may be used for historical purposes and provide recommendations and best practices that may be used during the next planning cycle to support the 2020 Census.

1.2 Intended Audience

The intended audiences for this report are: senior management, external stakeholders, the 2010 Census Address List Update Operation Integration Team (ALU OIT) under the 2010 Administrative Records Updating (ARU) Operation, the Group Quarters Enumeration Operation Integration Team (GQE OIT), and interdivisional stakeholders responsible for the planning, preparation, and/or implementation for future decennial census enumeration frame updates for group quarters, service-based locations, and carnival locations. The audience also includes the following interdivisional stakeholders responsible for planning and implementing the ALU Program:

- Center for Administrative Records Research and Applications (CARRA) - formerly known as the Data Integration Division (DID),
- Customer Liaison and Marketing Services Office (CLMSO),
- Decennial Management Division (DMD),
- Field Division (FLD),
- Geography Division (GEO),
- National Processing Center (NPC), and
- Population Division (POP).

2. Background

2.1 Census 2000

The Census 2000 Service-Based Enumeration (SBE) Operation provided an opportunity for people experiencing homelessness, who received services at shelters, soup kitchens, and regularly scheduled mobile food vans, and for persons who stayed at targeted non-sheltered outdoor locations (TNSOLs), to be included in the Census.

The Population Division was responsible for developing the enumeration frame of service-based locations and TNSOLs for the Census 2000 SBE Operation. During the spring of 1999, the Census Bureau sent letters to the Highest Elected Officials (HEOs) at over 39,000 tribal, state and local Government Units (GUs) and 1,700 National and State Advocacy Organizations (NSAOs), representing people without conventional housing, requesting the name, address, and contact information of service-based facilities and information about the presence of any known TNSOLs. Follow-up letters were sent to the non-respondents. Respondents that indicated they had TNSOLs were sent another letter requesting specific location descriptions and directions to the locations. These types of locations, typically, do not have city-style addresses: house number, street name, and ZIP code.

The name and address information of the GUs was obtained from an extract from the GEO's Geographic Program Participant (GPP) database. The name and address information of the advocacy organizations was obtained from State Data Centers (SDCs), Regional Census Centers (RCCs), local directories, office knowledge, and the Internet. In addition, the Census Bureau developed an Internet website to request mailing information of individuals and organizations that may have been able to provide names and addresses of service-based locations.

The Population and Housing Programs Branch (PHPB) in POP managed and controlled the information received from the GUs and NSAOs. PHPB, through a check-in process, documented which entities responded and provided the requested information and which entities did not respond. The RCCs geocoded the location descriptions of the information received for TNSOLs. The PHPB staff keyed the names and addresses of the service-based locations and the location descriptions of the TNSOLs into files and sent them to the Decennial Systems and Contracts Management Office (DSCMO) to update the Special Places/Group Quarters (SP/GQ) Master File.

The Field Division (FLD) sent a memorandum to the Regional Directors (RDs) requesting them to contact members of the Federal-State Cooperative for Population Estimates (FSCPE) and other state agencies to obtain address listings for group homes and migrant seasonal farmworker camps (bunk houses and dormitories). The Decennial Management Division (DMD)/Special Populations Program Branch (SPPB) organized the responses and sent them to DSCMO to be keyed and inventoried into the SP/GQ Master File. All of the TNSOL information received after the deadline for the final transmission to DSCMO was sent directly to the FLD to be included in the Census 2000 Local Knowledge Update (LKU) Operation (Kehm, 1999).

2.2 2010 Census Address List Update Program

The 2010 Census Address List Update (ALU) Program for Service-Based Enumeration (SBE), Group Homes, and Carnival Locations is a component of the broader 2010 Administrative Records Updating (ARU) Operation, which used administrative sources to supplement the Census Bureau's 2010 enumeration frame. The ALU program also supported the Census Bureau's goal of ensuring that the 2010 Census enumeration frame was most complete. The ALU Program accomplished this goal by using specialized procedures to obtain addresses throughout the 50 states, the District of Columbia, and Puerto Rico for group homes; service-based locations (shelters, soup kitchens, and regularly scheduled mobile food vans) where people experiencing homelessness receive services; physical locations for targeted non-sheltered outdoor locations where people experiencing homelessness live or stay; and the site locations for carnivals, circuses, and fairs. The ALU OIT managed this program under the direction of the POP and the Special Populations Program Branch (SPPB) in the DMD.

The ALU Program supported the 2010 Census enumeration frame development for the following operations:

- The 2010 Census Group Quarters Enumeration (GQE) Operation,
- The 2010 Census Service-Based Enumeration (SBE) Operation, and
- The 2010 Census Enumeration at Transitory Locations (ETL) Operation.

The ALU Program obtained addresses and location description information from the following sources:

- Internet research was conducted to identify shelters, soup kitchens, regularly scheduled mobile food vans, and group homes.
- HEOs at tribal, state, and local GUs and NSAOs were solicited to identify shelters, soup kitchens, regularly scheduled mobile food vans, and targeted non-sheltered outdoor locations.
- Carnival management companies were contacted to identify carnival, circus, and fair site locations.
 - The effort to build an enumeration frame for transitory locations was a new procedure developed and implemented to support the 2010 Census ETL Operation.

The 2010 Census ALU Program was conducted over three phases:

- phase one – internet research,
- phase two – mail solicitation, and
- phase three – carnival telephone solicitation.

2.2.1 Phase One – Internet Research

The NPC conducted Internet research to identify and capture address information for group homes and service-based locations (shelters; soup kitchens; and regularly scheduled mobile food vans.) The staff queried various Internet search engines looking in cities, towns, and villages in each county of every legal entity in the United States and Puerto Rico, to identify these service-based locations and to obtain

city-style addresses to create as complete of an enumeration frame as possible for each geographic area. The identified locations were data captured and geocoded. The geocoded addresses were maintained in data files and sent to the GEO to be updated in the Master Address File Topologically Integrated Geographic Encoding and Referencing database (MTdb). The valid geocoded addresses, collected during the Internet research, were included in the workload universe for the 2010 Census Address Canvassing (AC) Operation.

Research/Data Collection Procedures

The Geography Branch (GB) at the NPC developed procedures and trained clerical staff to conduct the Internet research. The clerical staff was instructed to access the SBE Inventory Control Production Control System to identify the counties for the service-based locations and group homes that were already in the Master Address File (MAF) and on the Group Quarters (GQ) Master File. The staff was given geographical assignments by county and instructed to query the recommended Internet websites to identify and collect address data for shelters, soup kitchens, regularly scheduled mobile food vans, and group homes. When necessary, the U.S. Postal Services (USPS) website was used to determine the correct street prefix, street suffix, ZIP Code, or county location of an address. Emphasis was placed on the staff to obtain city-style addresses in order for the addresses to be successfully geocoded. The staff used the 2008 Census Dress Rehearsal Group Quarters Definitions and Code List to assign the correct GQ type codes to the locations identified from the Internet research.

Keying and Data Capture

The NPC developed keying and data capture procedures for the clerical staff to document the addresses identified through the Internet research. The clerks created a record into the SBE Data Capture and Tracking System (DCATS) database for each identified location by keying the name and the address (structure number/street name) of the location. They also assigned and entered an appropriate GQ type code. Collectively, these records created the SBE inventory data files. The keying and data capture process included a Quality Assurance (QA) function. The records went through a verification process to ensure that the required data fields were complete. The first county completed by each clerk was 100 percent verified. After the clerk successfully passed the initial quality process, each subsequent county the clerk worked on was verified on a sample basis. In addition, the supervisor verified all counties that a clerk reported as having no shelters, soup kitchens, regularly scheduled mobile food vans, or group homes.

Geocoding

An attempt was undertaken to geocode all of the records that were created. Automated geocoding was done by the CARRA for the stateside records that contained a city-style address. For each identified stateside address, clerks queried a recent version of the read-only Topologically Integrated Geographic Encoding and Referencing (TIGER) database using the MAF Browser to determine if the identified address existed in TIGER and to find its census tract and block code. If the address did not exist in the MAF, the clerk used MapViewer software to query the MAF/TIGER to geocode the stateside address. The NPC formatted the records into an acceptable file layout. The CARRA was instructed to assign a source code to each auto-geocoded stateside address record.

Stateside records that remained ungeocoded, after the automated geocoding attempt, were forwarded to the NPC for clerical geocoding. Puerto Rico address records could not be auto-geocoded due to the difference in their city-style addresses and physical location descriptions. The clerical staff at the NPC attempted to clerically geocode all Puerto Rico address records and the stateside records that remained ungeocoded after the automated geocoding attempt. They were also instructed to assign a source code to each record. If the Puerto Rico address did not exist in TIGER, the clerk used an extract from the TIGER database and an in-house software search utility, Search Utility Mapping Object (SUMO), to geocode the Puerto Rico address.

File Processing and Editing

The CARRA received a file of geocoded stateside records and a separate file of geocoded Puerto Rico records from the NPC. The CARRA reformatted and standardized these files into a Local Update of Census Address (LUCA) file format and performed an editing process. The records were matched to a MAF extract file and unduplicated. The results were then filtered to delete unacceptable records including those that did not have: city-style addresses; census block; and valid address data. Once the CARRA completed the editing process, they sent separate transaction files of stateside and Puerto Rico records to the GEO to update the MTdb.

MTdb Update

The GEO received the stateside and Puerto Rico transaction files from the CARRA, which were converted into an Address Update (ADDUP) format that went through the standard updating rules of processing and editing. Updates to the MTdb were done for the records that passed the editing process. New records were added to the MTdb and matching records were updated in the MTdb. These records were flagged as an Other Living Quarters (OLQ) and included in the workload universe for the 2010 Census Address Canvassing Operation. If the address did not pass the editing process, the GEO placed the address into a reject file.

2.2.2 Phase Two – Mail Solicitation

The NPC staff conducted a mail solicitation to the HEOs of GUs from tribal, state, and local governments and to the members of NSAOs for people experiencing homelessness, requesting that they identify and provide the Census Bureau with city-style addresses for service-based locations (shelters, soup kitchens, and regularly scheduled mobile food vans) and location descriptions for TNSOLs. It is important to note that there is no national inventory for TNSOLs, therefore, the Census Bureau relies heavily on governmental units and advocates to provide these locations.

The mail solicitation was conducted in two waves. The first mail-out, on January 2, 2009, was sent to 39,360 GUs and 393 NSAOs. The first mail-out requested the name, city-style address, and contact information for shelters, soup kitchens, and regularly scheduled mobile food vans and it asked the GUs and NSAOs to let the Census Bureau know whether they expect to have any presence of TNSOLs in their geographic area on March 31, 2010.

The second mail-out, on August 3, 2009, was originally planned to be sent to the HEOs of GUs and NSAOs that informed the Census Bureau, in response to the first mail-out, that they have TNSOLs in

their geographic area. However, due to the changes to the TNSOL definition, the second mail-out was sent to each person on the original list of GUs and NSAOs as was done with the first mail-out. TNSOL location descriptions collected and processed from the mail solicitations were updated in the MTdb and included in the enumeration universe for the 2010 Census Group Quarters Advance Visit (GQAV) Operation.

2.2.2.1 First Mail-Out

Mailing List Development - GUs and NSAOs

The Census Bureau developed mailing lists of GUs and NSAOs. The staff at the NPC obtained an extract of the GPP database from the GEO to identify the name and address of each qualifying government. That document created the listing of GUs for the mail-out. A record containing address and contact information was created for each GU and was entered into a database.

Using the business rule for the selection of the NSAOs for the mail-out, the following advocacy groups/organizations were included in the mail solicitation:

- The National Coalition for the Homeless,
- The National Alliance to End Homelessness,
- The National Coalition for Homeless Veterans, and
- The national listings of advocacy groups from the Housing and Urban Development (HUD) website.

To create the mailing list of advocates groups/organizations for people experiencing homelessness, the POP accessed the Internet for the HUD home page to obtain the National Advocates Organization (NAO) List (by state and local governments). A subset of the NAO List obtained from the website was used to select the agreed upon advocacy groups/organizations, to obtain the name of the contact person, and to get the city-style address (street address, city, state, and ZIP code). Once the POP completed the listing of advocates, they sent the listing to the NPC. The NPC staff created a record for each entity and entered the address and contact information into a database.

The listings created from these databases were used to send the mailing packets to the GUs and NSAOs. The letter in the mailing packet asked them to send the Census Bureau the name and address of every shelter, soup kitchen, and regularly scheduled mobile food van within their jurisdiction, and to mark the correct box on the worksheet to indicate whether they anticipate having any TNSOLs in their jurisdiction on March 31, 2010. The GUs and NSAOs were asked to submit the requested information to the NPC, by the deadline of January 26, 2009 (Shepherd, 2008).

Data Collection Materials

Members from the ALU OIT composed the letters and designed the forms used to collect the service-based addresses and TNSOL information descriptions from the GUs and NSAOs. The team worked with the Administrative Customer Services Division (ACSD) to create layouts, assign form numbers, and format the letters and forms.

The letters and forms went through the DMD clearance process to ensure policy compliance. Once cleared, they were sent to the Census Bureau's Correspondence Quality Assurance Staff (CQAS) for the formal review process and to have the letters signed by the Director of the Census Bureau. Staff from DMD's Puerto Rico Island Area and Overseas Branch (PRIAO) translated and adapted the forms and letters into Spanish in order to mail the requests to the GUs and NSAOs in Puerto Rico (PR).

The following materials comprised the mailing packet for the first mail solicitation:

- Form D-3100-a (L): Initial Request Letter to Highest Elected Officials,
- Form D-3100-b (L): Initial Request Letter to Advocacy Organizations,
- Forma D-3100-a (L) (PR): Initial Request Letter to HEOs,
- Forma D-3100-b (L) (PR): Initial Request Letter to Advocacy Organizations,
- Form D-3100-a (F): Worksheet for Providing Service Locations,
- Forma D-3100-a (F) (PR): Worksheet for Providing Service Locations,
- Form D-3100-b (F): SBE Definitions,
- Forma D-3100-b (F) (PR): SBE Definitions,
- Form BC-1325 (JV): Outgoing Envelope, and
- Form BC-347A (02) (JV): Postage-Paid Return Envelope.

Once the letters and forms were finalized, the ACSD released the post-script files to the Document Services Branch (DSB) at the NPC. The post-script files included the final layout and design for the letters and forms. The NPC programmers used the post-script files to print the required quantities using the DocuPrint system. The DSB was also responsible for assembling and mailing the packets to the GUs and the NSAOs.

First Mailing Process

The first mail-out of the data collection packets was sent on January 2, 2009 and mailed to 39,360 HEOs of GUs and 393 members of NSAOs (stateside and Puerto Rico). This mail-out requested information such as; the name, city-style address, and the contact person for shelters, soup kitchens, and regularly scheduled mobile food vans. In addition, the request include as question that asked them whether they anticipate the presence of TNSOLs in their geographic area on March 31, 2010.

The DSB staff at the NPC assembled the data collection materials in an outgoing envelope and used the USPS to mail the packets. Each mailing packet included:

Form Number and Description

- an initial letter to the GU or NSAO,
- Form D-3100-a (F): Worksheet for Providing Service Locations,
- Form D-3100-a (F): SBE Definitions, and
- a postage-paid return envelope.

For tracking purposes, a 12-digit eye-readable barcode was applied to the bottom right corner of the Form D-3100-a (F): Worksheet for Providing Service Locations. The worksheet also included an area for the respondent to mark the correct box to indicate whether they expect to have TNSOLs. The mailing procedures went through a QA process to ensure that the:

- name and address of the addressees were visually displayed on the outside of the outgoing envelopes,
- packets included the correct materials, and
- mailing materials were placed in the proper order.

Check-In, Keying, and Data Capture

The NPC wrote the office procedures and trained the GB clerical staff to perform the data preparation, check-in, batching, keying, and unduplication activities. The GUs and NSAOs that responded provided their information on the D-3100-a (F): Worksheet for Providing Service Locations. Some respondents provided their information in other types of correspondence, which was also placed in the postage-paid return envelope. The data preparation procedures required clerks to review the information supplied by the HEOs and NSAOs on the D-3100-a (F): Worksheet for Providing Service Locations to ensure that the types of facilities they sent were within the scope of the ALU program and that the addresses they provided conformed to the USPS Address Standardization format.

For information the GUs and NSAOs provided in other types of correspondence, in addition to the Form D-3100-a (F): Worksheet for Providing Service Locations, clerks were instructed to transcribe the barcode number found on the worksheet, onto every page of the other types of correspondence received.

Any questions the NPC had regarding the types of facilities that should be included, such as food pantries, food banks, and facilities other than service-based locations, the Project Manager (PM) of the ALU Program at Census Bureau headquarters (HQ) was contacted to provide guidance. As a result of the first mail-out, the NPC received numerous mail returns marked as Undeliverable As Addressed (UAAs). The NPC staff conducted further research to find the correct address to re-send the mailing packet to the correct entity. These address corrections/updates were sent to the GEO to update the GPP.

In addition, the NPC received numerous phone calls from the GUs and NSAOs asking questions about the information the Census Bureau requested regarding the service-based locations. The staff at the NPC

worked diligently with the GUs and NSAOs to provide answers to their questions. Some of the questions received during the phone calls were:

- What should the entities do if the return envelope was lost?
- What should the entities do if there is nothing to report?
- What should the entities do when there are too many locations to fit on the form?
- Can the Census Bureau accept the information electronically?
- Can the entities find additional forms on the Census Bureau website?

The NPC staff designed and developed the DCATS for data capture and tracking. The clerks checked-in the materials from the GUs and NSAOs by passing a wand over the barcode or by keying the barcode from the D-3100-a (F): Worksheet for Providing Service Locations into the DCATS. After entering the barcode into DCATS, the clerks keyed the service-based information from the worksheet into the DCATS, creating a record for each location.

Once the information was captured in the DCATS, each record went through a QA verification process. The verification process was performed to ensure that the contact information was correctly recorded, the facility name and address were correct, and whether the TNSOL box was checked. All discrepancies were sent to the supervisor for resolution. The compilation of these records created the SBE address update data file.

Geocoding

Attempts were undertaken to geocode all records. Automated geocoding was done by the CARRA for the stateside records that contained a city-style address. Records that remained ungeocoded, after the automated geocoding attempt, and all of the records for Puerto Rico were forwarded to the NPC for clerical geocoding. Once the geocoding was completed, the geocodes were verified and any discrepancies were sent to the supervisor for resolution.

File Processing and Editing

The records were edited to ensure that the addresses were valid and to eliminate duplicate records. Since addresses were collected from multiple entities, it was evident that there were some duplicate addresses. A duplicate record was one that had the exact same structure number and street address. The NPC developed unduplicating procedures and was responsible for unduplicated records. Once the records were unduplicated, the NPC then sent the address files to the CARRA for final processing.

The CARRA applied edits to the address files received from the NPC for the first mail-out from the GUs and NSAOs. The files were edited to ensure that the addresses were valid and included the name, address, and block-level geocode for every shelter, soup kitchen, and regularly scheduled food van on each record. The CARRA created two transaction files, one for stateside records and the other for Puerto Rico records. The CARRA sent the transaction files to the GEO to be updated in the MTdb.

MTdb Update

The GEO converted the transaction files into an ADDUP format that went through the updating rules defined in the Customer Requirements Document (CRD) developed by the NPC. The GEO processed and edited the file. If the address did not pass the editing process, the address was sent to a reject file and was not updated in the MTdb. If the address passed the editing process, the address was updated in the MTdb and included in the enumeration universe for the 2010 Census GQAV Operation.

2.2.2.2 Follow-Up Mail-Out to Non-Respondents

The follow-up mail-out to the non-responding GUs and NSAOs was conducted on January 26, 2009. The NPC created a list that included all non-respondents from the first mail-out. A follow-up letter was sent to remind the GUs and NSAOs that:

- The Census Bureau had not received any information from them for the first request.
- The Census Bureau needed to know whether there would be any presence of TNSOLs in their geographic area on March 31, 2010.
- It was important for them to respond to the Census Bureau's request for service-based address information and send their information to the NPC by the deadline of February 23, 2009.

Follow-Up Letters and Data Collection Forms

The ALU OIT composed the follow-up letters and worked with the ACSD to create layouts, assign form numbers, and format the letters. The letters went through the required clearance process and formal reviews and were sent to the CQAS to be signed by the Director of the Census Bureau. DMD staff from the PRIAO Branch translated and adapted these forms and letters into Spanish to mail to the GUs and NSAOs in Puerto Rico.

The DSB at the NPC printed the required number of follow-up letters and mailed them to the listings of non-responding GUs and NSAOs. The NPC packaged the follow-up letters to the GUs and NSAOs, the SBE Definitions, and the D-3100-a (F): Worksheet for Providing Locations in an outgoing envelope and mailed them using the USPS. The following are the materials that comprised the mailing packets for the follow-up mail-out to the non-respondent GUs and NSAOs:

Form Number and Description

- Form D-3100-c (L) FLU HEO: Non-Response Follow-Up Letter to HEOs,
- Forma D-3100-c (L) (PR): Non-Response Follow-Up Letter to HEOs,
- Form D-3100-d (L) FLU ADV: Non-Response Follow-Up Letter to Advocates,
- Forma D-3100-d (L) (PR): Non-Response Follow-Up Letter to Advocates,
- Form D-3100-b (F): SBE Definitions,
- Forma D-3100-b (F) (PR): SBE Definitions,
- Form D-3100-a (F): Worksheet for Providing Service Locations,

- Forma D-3100-a (F) (PR): Worksheet for Providing Service Locations,
- Form BC-1325 (JV): Outgoing Envelope, and
- Form BC-347A (02) (JV): Postage-Paid Return Envelope.

The service-based location information received from the GUs and NSAOs by the deadline for the follow-up mail-out went through the same check-in, keying, data capture, and geocoding processes as the first mail-out. These records were appended to the address file created from the first mail-out, sent to the GEO to be updated in the MTdb, and were included in the enumeration universe of the 2010 Census QAV Operation.

Non-Response Telephone Follow-Up (Phone Calls to Non-Respondents)

Since there was such a large volume of non-responding GUs and NSAOs, it was suggested and agreed that the NPC would make follow-up phone calls to them, in addition to sending them the follow-up mailing packet. The non-response telephone follow-up activity was conducted to contact the GUs and NSAOs that did not respond to the first request or to the follow-up request. The follow-up telephone call activity was an attempt to give every GU and NSAO a final opportunity to send the Census Bureau information about service-based locations and whether they expect to have TNSOLs before the final deadline to update the 2010 Census enumeration frame. Although this telephone follow-up activity was not an activity in the original operational plan, it was necessary because it was not anticipated that so many of the major government entities, with large populations of people experiencing homelessness, and numerous advocacy organizations for people experiencing homelessness, would not participate in the Census Bureau's address list development. In addition, this activity was implemented to improve the enumeration frame development, to minimize non-response, and to improve coverage of service-based locations.

The NPC wrote the procedures, which provided instructions for the clerical staff to make the phone calls. The clerks were instructed to make at least three call attempts to the GUs and NSAOs. The NPC developed a script that was administered during the telephone calls to ensure that the call was short and to the point and that, the same message was conveyed to every contact. The script stressed the importance of providing the requested address information to the Census Bureau so that people at service-based locations and TNSOLs could be included in the 2010 Census.

The non-responding GUs and NSAOs were asked whether they had any shelters, soup kitchens, or regularly scheduled mobile food vans in their jurisdiction and if they anticipated having TNSOLs on March 31, 2010 where persons experiencing homelessness congregate to live. If they reported that they had those types of locations, they were asked to let the Census Bureau know the best way for them to forward the information: by phone, fax, e-mail, or regular mail. In addition, they were asked whether they had any brochures or pre-printed listings of shelters and soup kitchens and if so, to please send them as well. At this point, the Census Bureau was willing to accept the information in brochures, pre-printed listings, and any other type of documents that the GUs and NSAOs were willing to provide. The GUs and NSAOs were also informed that April 10, 2009 was the deadline for them to have their information to the NPC.

Approximately 1,300 GU and NSAO entities called the NPC on the 800 toll free number with questions regarding the request for service-based location information. Many of the calls were asking for the address or the fax number at the NPC where they could provide the requested information.

Non-Response Telephone Follow-Up (Phone Calls Results)

The NPC attempted to call 10,700 GUs and NSAOs. A summary of the results of the telephone calls is as follows:

- NPC called or attempted to call 10,700 entities at least once.
- NPC called or attempted to call the 25 largest entities three times (50 additional calls).
- NPC called or attempted to call the next 600 largest entities twice (600 additional calls).
- Approximately 2,000 (of the 5,185) responses were the result of a callback to the NPC by the entity.
- NPC called almost 1,000 bad phone numbers, and then conducted research to find a good number to make the call.
- NPC called 5,185 entities resulting in acquisition of responses.
- NPC called 52 entities who said they will mail the form in.
- NPC called 3,272 entities and left a message.
- NPC called 196 entities who requested that the Census Bureau fax a blank form for them to complete. NPC called 144 entities who said they will call back. NPC had 841 incorrect phone numbers and conducted research to acquire a good number. NPC called 601 entities and obtained an outcome disposition of “other.”

The total number of phone calls received and made by the NPC during the telephone follow-up activity was approximately 15,650.

The service-based addresses and location descriptions that were collected from the telephone follow-up went through the same check-in, keying, and data capture process. The records were appended to the files created from the responses to the previous requests and were sent to the GEO to be included in the enumeration universe for the 2010 Census GQAV Operation.

2.2.3 Phase Two – Mail Solicitation for TNSOL Information

TNSOL Mailing Process

The second mail solicitation was conducted on August 3, 2009. The mail-out to request TNSOL information was sent to the same listings of GUs and NSAOs as was done in the first mail-out. The decision to mail to everyone was made primarily because the TNSOL definition changed and was expanded to include persons staying in pre-identified car, recreational vehicle (RV), and tent encampments where people experiencing homelessness congregate to live. Although some entities had already sent TNSOL information, everyone that was mailed to previously was also included in the TNSOL mail solicitation. The TNSOL mail solicitation was sent to everyone to ensure that they were well informed about the changes to the TNSOL definition and to ensure that they all had the opportunity to respond to the request to include people that were not defined in the original TNSOL definition they

received in the first mailing. In addition to the request to obtain these locations, they were also asked to provide specific information about the TNSOL geographical location on the data collection worksheet, Form D-3100-c (F): Targeted Non-sheltered Outdoor Location Form: 1) the location description, and 2) the directions to the location. They were asked to provide this information and to mail the completed form to the NPC by the deadline of August 31, 2009.

TNSOL Insert

Staff from the DMD/SPPB presented a proposal to senior management to request that the TNSOL definition be expanded to allow the ALU Program to include address locations for people living in car, RV, and tent encampments for the following issues:

- Feedback from stakeholders and media reports indicated a steady increase in the growing number of people living in encampments. The increase was largely attributed to the state of the economy at this time. Note: these encampments were “ad hoc” locations formed to provide areas for people to congregate to live or stay.
- Governmental agencies and advocates were concerned about how the Census Bureau would enumerate this population.
- There was a growing concern that this population could be missed in the 2010 Census, thus not ensuring a complete and accurate count of the nation’s population.

Senior DMD managers insisted that the proposal be presented to the Census Integrated Group (CIG). The CIG accepted the proposal to amend the TNSOL definition. The POP issued a revised 2010 Census Group Quarters Definitions and Code List, which included the expansion of the TNSOL definition to include persons staying in pre-identified car, RV, and tent encampments. Instead of changing the Form D-3100-b (F): SBE Definitions, the team developed a new form, D-113: TNSOL Mail-Out Insert that described the changes to the TNSOL definition. This form was translated and adapted into Spanish by the PRIAO and sent to the DSB at the NPC to print the required quantities. (Lamas, 2009).

Data Collection Materials

The ALU OIT composed the letters for the HEOs and advocacy organizations, the TNSOL data collection form, and the TNSOL Mail-out Insert (revised definition) in preparation of the mailing packets to the GUs and NSAOs. The team worked with the ACSD to create layouts, assign form numbers, and to format the letters and forms. The letters went through the DMD clearance process to ensure policy compliance. Once cleared, the letters were sent to the Census Bureau’s CQAS for formal review and to be signed by the Director of the Census Bureau. Staff from the DMD’s PRIAO Branch translated and adapted the forms and letters into Spanish in order to mail the requests to the GUs and NSAOs in Puerto Rico.

Printing and Mailing

The DSB at the NPC printed the TNSOL forms and letters and created the mailing packets by assembling the TNSOL request letters and forms in an outgoing envelope. The NPC sent the mailing packet to the GUs identified from the GPP extract and the file of NSAOs using the USPS. The following are the materials that comprised the mailing packets for the TNSOL mail solicitation:

Form Number and Description

- Form D-3100-e (L): Initial Letter to Highest Elected Official (HEO) – TNSOLs,
- Forma D-3100-e (L) (PR): Initial Letter to Highest Elected Official (HEO) –TNSOLs,
- Form D-3100-f (L): Initial Letter to Recipient in Each Advocacy Organization TNSOLs,
- Forma D-3100-f (L) (PR): Initial Letter to Recipient in Each Advocacy Organization TNSOLs,
- Form D-113: TNSOL Mail-Out Insert,
- Forma D-113 (PR): TNSOL Mail-Out Insert,
- Form D-3100-c (F): Targeted Non-Sheltered Outdoor Location Form,
- Forma D-3100-c (F) (PR): Targeted Non-Sheltered Outdoor Location Form,
- Form BC-1325 (JV): Outgoing Envelope, and
- Form BC-347A (02) (JV): Postage Paid Return Envelope.

The D-3100-c (F): Targeted Non-Sheltered Outdoor Location Form included an eye-readable 12-digit barcode on the bottom right-hand corner that the NPC used for tracking purposes. The mailing procedures went through a QA process to ensure that the name and address of the addressee were visually displayed on the outside of the outgoing envelope, that the mailing packet included the correct letter and forms, and that the materials were placed in the proper order.

Keying and Data Capture

The clerks at the NPC checked-in the materials by passing a wand over the barcode or by keying the 12-digit eye-readable barcode into the DCATS. The information obtained from the GUs and NSAOs on the TNSOL location form was reviewed to ensure that it included sufficient information in the description and directions for Census Bureau workers to find the TNSOL. The clerks captured the information received for each location by creating a record into the DCATS. There was a requirement for the data collection staff to assign a source code to each record to indicate whether the information came from a GU or a NSAO, but that procedure was not implemented.

Geocoding

TNSOL descriptions and non city-style addresses could not be auto-geocoded. The staff at the NPC clerically geocoded all of the TNSOL records for both the stateside and Puerto Rico locations.

File Processing and Editing

The NPC performed edits to the files to ensure that each record contained a valid location description and that there were no duplicate records between the location descriptions received from the GUs and NSAOs.

The NPC created transaction files using the records received from this mail-out. The records included the location description and block-level geocode for every TNSOL received from the GUs and NSAOs. The NPC merged the stateside and Puerto Rico records into one file and sent the transaction file to the GEO to update the MTdb.

MTdb Update

The GEO received the file and converted it into an ADDUP format. The file went through the standard updating rules where processing edits were applied to the location descriptions to ensure that the file contained the legal values and the required fields were filled. If the location descriptions passed the editing process, the locations were updated in the MTdb. If the locations did not pass the edits, the locations went to a reject file. All of the processed records with valid location descriptions were included in the workload universe for the 2010 Census QAV Operation.

Partnership Assistance

In an attempt to urge the GUs to participate in the address list development, the Customer Liaison and Marketing Service Office Division (CLMSO) contacted their partners at the SDCs and asked them to contact the HEOs of the GUs, to advise them that the Census Bureau had extended the deadline for them to provide service-based addresses and TNSOL descriptions. The SDCs made contact with the GUs using the Listserv. The CLMSO sent the SDCs copies of the materials that were sent to the GUs and NSAOs that included the first letter, the follow-up letter, and the revised TNSOL definition.

The Census Bureau also involved members from the Race and Ethnic Advisory Committees (REAC) and Census Advisory Committees in the process to collect TNSOL information. A letter was sent to the committee members to inform them about the Census Bureau's plan to provide people experiencing homelessness an opportunity to be counted in the 2010 Census during the TNSOL enumeration. The letter provided specific information concerning how the Census Bureau contacted the GUs and NSAOs requesting them to provide TNSOL information. In addition, they were also given a complete packet of the solicitation materials that was sent to the GUs and NSAOs.

Copies of the materials that were sent to the GUs and NSAOs were also sent to the RCCs so that they were also well informed about the effort the ALU Program was undertaking to obtain TNSOL information.

The Field Partnership Assistants were also involved in providing service-based locations and TNSOL information. They identified TNSOLs and regularly scheduled mobile food vans by collecting information from grass roots organizations and other local contacts to identify the existence of any car, RV, and tent encampments and regularly scheduled mobile food vans in the geographical areas of their work assignments.

Non-Response Follow-Up Mailing List Development for TNSOLs

A follow-up mailing request for TNSOL information was sent on August 31, 2009 to the GUs and NSAOs that did not respond to the original request for TNSOLs. The follow-up letter asked the GUs and NSAOs to provide the TNSOL address information to the Census Bureau by the deadline of September 23, 2009.

Follow-Up Data Collection Materials

The ALU OIT composed the follow-up letters, mail-out insert, and the D-3100-c (F): Targeted Non-Sheltered Outdoor Location Form. The team worked with ACSD to create layouts, assign form numbers, and format the letters and forms. The letters went through the required DMD clearance process and formal reviews and were sent to the CQAS to be signed by the Director of the Census Bureau. Staff from the DMD's PRIAO Branch translated and adapted the forms and letters into Spanish in order to mail the requests to the GUs and NSAOs in Puerto Rico.

The DSB at the NPC printed the materials and mailed them to the non-responding entities. The D-3100-c (F): Targeted Non-Sheltered Outdoor Location Form included a 12-digit eye-readable barcode on the bottom right corner, which the NPC used for tracking purposes. The NPC packaged the letters and forms in an outgoing envelope and mailed them to the GUs and NSAOs using the USPS. The following are the materials that comprised the mailing packets for the non-response follow-up mailing for TNSOLs:

Form Number and Description

- Form D-3100-g (L): Non-Response Follow-Up Letter to HEO – TNSOLs,
- Forma D-3100-g (L) (PR): Non-Response Follow-Up Letter to HEO – TNSOLs,
- Form D-3100-h (L): Non-Response Follow-Up Letter to Advocates – TNSOLs,
- Forma D-3100- h (L) (PR): Non-Response Follow-Up Letter to Advocates – TNSOLS,
- Form D-113: TNSOL Mail-Out Insert,
- Forma D-113(PR): TNSOL Mail-Out Insert (Spanish),
- Form D-3100–c (F): Targeted Non-Sheltered Outdoor Location Form,
- Forma D-3100-c (F) (PR): Targeted Non-Sheltered Outdoor Location Form,
- Form BC-1325 (JV): Outgoing Envelope, and
- Form BC-347A (02) (JV): Postage Paid Return Envelope.

The mailing procedures for the follow-up TNSOL request went through the standard QA process to ensure that: the name and address of the addressee was visually displayed on the outside of the outgoing envelopes; the mailing packet included the correct materials; and the materials were placed in the proper order.

The TNSOL location descriptions that were received from the GUs and NSAOs in response to the follow-up mail-out by the deadline went through the same check-in, keying, data capture, and geocoding processes. This information was included in the files sent to the GEO to be updated in the MTdb and was included in the workload universe for the 2010 Census GQAV Operation.

Late Receipts of TNSOLs

The NPC received numerous late responses to the request for TNSOL information from the GUs and NSAOs. Many of these TNSOL data collection forms and other list of outdoor locations were received at the Census Bureau too late for the NPC to send them to the GEO to be included in the workload universe for the 2010 Census GQAV Operation. In order to get these address records in the GQAV universe, a decision was made for the NPC to deliver the records directly to the FLD. The NPC keyed the records into an EXCEL file, geocoded the locations to the State, County, Local Census Office (LCO), and Collection Block-level, and sent them in two supplemental files to the FLD. The first file, which was sent on December 8, 2009, included 3,226 records. The second file, which was sent on January 15, 2010, included 6,280 records. The FLD sent these address files to the RCCs, who in turn, sent them to the responsible LCOs where the staff was instructed to add these locations to the 2010 Census GQAV Operation workload. The work that the NPC had to perform processing the TNSOLs that were received late was not an activity that was scheduled or funded in the operational plan. The PM of the ALU OIT submitted a Change Request (CR) to get approval to add the activity to the program schedule and secure additional funding to cover the cost for processing this work. The approving authorities approved the CR.

Response to Second Mail-Out

The NPC received responses from 28,303 GUs and NSAOs:

- This was approximately 70.5 percent of the total mailings (39,755).
- 1,797 reported that they had TNSOLs.
- 27,985 reported that they had no TNSOLs.

2.2.4 Phase Three – Carnival Telephone Solicitation

The address list development for carnival, circus, and fair locations was a procedure implemented to support the 2010 Census ETL Operation. The ETL was a new enumeration operation for the decennial census. This operation was conducted between March 22, 2010 and April 16, 2010 and was implemented during to enumerate persons living or staying at transitory locations. Transitory locations include carnival, circus, and fair site locations. To create the 2010 Census enumeration frame for the carnivals, circuses, and fairs, staff at the NPC conducted a telephone solicitation by calling carnival management companies to request the site location and date where each carnival, circus, and fair was planned to be operational during the 2010 Census ETL Operation. This information was needed to help the FLD staff plan the enumeration of people living or staying at these locations during the enumeration period for the 2010 Census ETL Operation.

Contact List Development

The source for developing the carnival contact list was the 2008 Carnival and Circus Booking Guide. The POP used listings from this source to create the telephone contact file that was sent to the NPC. The file included 397 records of carnivals, circuses, and fairs. The listings included the name of the company that managed the carnival/circus/fair and the name and telephone number for the contact person(s). The NPC used these listings to call the contact person(s) responsible for these transitory

locations to obtain the site locations for the carnivals, circuses, and fairs that were to be operational in the coming year, between March 22, 2010 and April 16, 2010. The telephone contact file provided listing for locations exclusively in the United States. The telephone contact list did not provide any contact information for locations in Puerto Rico. The Census Bureau was unable to obtain any listing for carnival management companies in Puerto Rico. In addition, the NPC was unable to find any carnival management companies for Puerto Rico on the Internet.

Data Collection Materials

The ALU OIT developed the required materials for the Carnival Telephone Solicitation which include the Carnival Telephone Script and the Carnival Worksheet Form. The Carnival Locations Telephone Script was used by the staff at the NPC to make the telephone calls requesting the specific site location and dates the carnivals, circuses, and fairs would be operational between March 22, 2010 and April 16, 2010. The Carnival Telephone Script was used during the phone calls to ensure that the exact same message was conveyed to every person contacted. The Carnival Worksheet was used to collect the carnival/fair/circus site location information obtained during the telephone calls. The DSB staff at the NPC printed the required quantity of data collection materials that included the following:

Form Number and Description

- Form D-3100–d (F): Carnival Telephone Script, and
- Form D-3100–e (F): Carnival Worksheet.

The NPC staff developed the telephone call procedures and trained the clerical staff on how to make the telephone calls, and to clerically geocode the identified locations. The procedures included a list of Frequently Asked Questions (FAQs) to help the clerks respond to anticipated questions from the respondents. The NPC instructed the staff to make at least three phone call attempts to each carnival contact in an effort to collect the location information.

Data Capture Procedures

During the phone call, the NPC staff administered the Carnival Telephone Script to the respondent to obtain the scheduled dates of the carnival/circus/fair and the physical site location description including: the names of the nearest intersecting roads; the city; county; state; and ZIP Code. The data were collected on the D-3100-e (F): Carnival Worksheet and then entered into the DCATS creating a record for each identified site location.

Geocoding

The NPC used collection geography (state/county/block) to clerically geocode the site locations of the identified carnivals/circuses/fairs that were planned to be in operation between March 22, 2010 and April 16, 2010. The NPC delivered the data file of the clerically geocoded carnival, circus, and fair site locations in an ADDUP format to the GEO on September 11, 2009.

MTdb Update

The NPC created and delivered to the GEO a CRD defining the criteria for the GEO to update the site location descriptions in the MTdb. The site location descriptions were updated in the MTdb from October 28, 2009 to November 2, 2009. These locations were included in the workload universe for the 2010 Census ETL Operation.

2.2.5 Program Expense

The three phases of the ALU Program were conducted over a period of four years. There is no direct method for isolating the budget costs of the ALU program. Therefore, this assessment cannot accurately report the actual expenses for the ALU Program.

3. Methodology

The results for the 2010 Census ALU Assessment Report were obtained from the data received from the data sources listed below. The information provided in the data sources was used to answer the assessment questions.

The GQ type codes for Soup Kitchens and Regularly Scheduled Mobile Food Vans were grouped together because the Census Bureau's 2010 publication policy prohibits the release of these data by their individual type code.

3.1 Data Sources

3.1.1 CARRA Tables

The CARRA Tables provided the following information:

- The number of stateside and Puerto Rico records, by GQ type, collected by the NPC,
- The number and percent of stateside records, by GQ type, auto-geocoded by the CARRA,
- The number and percent of stateside records, by GQ type, clerically geocoded by the NPC,
- The number of stateside and Puerto Rico records, by GQ type, delivered by the CARRA to the GEO, and
- The number of Puerto Rico records, by GQ type, clerically geocoded by the NPC.

3.1.2 TNSOL Data Tallies

The NPC collected TNSOL data for stateside and Puerto Rico only during Phase Two of the ALU Program. The NPC also geocoded all of the TNSOL records and forwarded them directly to the GEO. In addition, the NPC received some TNSOL data from the GUs and NSAOs beyond the requested due date. The late TNSOL records were forwarded directly to the FLD for inclusion into the workload for the 2010 Census GQAV/GQE Operations.

The results include the following:

- The total number of stateside and Puerto Rico TNSOLs collected by the NPC,
- The total number of Puerto Rico TNSOLs collected by NPC, and
- The total number of Puerto Rico TNSOLs geocoded by NPC.

3.1.3 Phase Three Final Carnival Tallies

The NPC collected stateside Carnival/Circus/Fair address locations during Phase Three of the ALU Program. The NPC reported that they were unable to obtain any Carnival/Circus/Fair data for Puerto Rico. The NPC also clerically geocoded the Carnival/Circus/Fair data and forwarded it directly to the GEO.

3.1.4 Problems/Issues Reported by NPC

The NPC provided the information for the following assessment questions:

- What problems or issues impacted the operation and how were they resolved for each of the three phases of the operation? and
- What were the advantages and disadvantages of having different stateside and Puerto Rico frame building procedures?

3.1.5 GEO Tallies

The GEO provided the information for the number of stateside and Puerto Rico addresses that were In and Out of the Final 2010 Census. The CARRA delivered the final sets of ALU data to the GEO for processing. The tally descriptions include the attachments from the GEO emails.

The GEO produced the following tallies:

- Total number of address records GEO received from the CARRA, including:
 - Total number of updates to existing sensitive GQs,
 - Total number of updates to existing GQs, OLQs, SPs, or TLs,
 - Total number of updates to existing HUs and Non-Residentials, and
 - Total number of new records added to the MTdb.
- Total number of address records GEO Rejected by Reject code from the CARRA,
- Total number of address records GEO Accepted from the CARRA,
- Total number of address records which were sent to the GQV Operation,
- Total number of address records which were sent to the GQAV Operation,
- Total number of address records which were new to the MTdb,
- Total number of address records which were matched an existing MAF record,
- Total number of address records which were new to the MTdb which were sent to the GQE/SBE operation by CENSTAT2010,

- The number of HUs that were flagged as OLQs for GQV, and
- For Phase One (Internet Research), -- For the total number of new addresses that made it in the final 2010 Census, the: MAFID; Population Count; GQ/HU Flag; and GQ Type Code – Using this spreadsheet we calculated by stateside and by Puerto Rico and by GQ Type Code – The Population Count and the number of associated MAFIDs.

3.2 Quality Assurance Procedures

Census Bureau standards and quality process procedures were applied throughout the creation of this report. These quality process procedures defined how we determined evaluation methods, created specifications for project procedures and software, developed clerical and computer procedures, analyzed data, and prepared this report.

3.3 Questions To Be Answered

The specific questions below are unique to the 2010 Census ALU Program. These questions were selected by the ALU OIT:

1. How many addresses were collected by the NPC for Phase One – Internet Research?
Source: CARRA Tables
2. How many stateside addressees were geocoded for Phase One – Internet Research?
Source: CARRA Tables
3. How many Puerto Rico addresses were geocoded by the NPC for Phase One – Internet Research?
Source: CARRA Tables
4. How many addresses were collected by the NPC for Phase Two – Mail Solicitation?
Source: CARRA Tables and TNSOL Data Tallies
5. How many stateside addresses were geocoded for Phase Two – Mail Solicitation?
Source: CARRA Tables
6. How many Puerto Rico addresses were geocoded for Phase Two – Mail Solicitation?
Sources: CARRA Tables
7. What was the outcome of the Carnival/Circus Management telephone solicitation?
How many Carnival Location records were identified using Carnival/Circus Management Companies listing?
Source: Final Carnival Tallies
8. How many new addresses yielded from the three phases of the ALU Program were in the final 2010 Census and what were their statuses?
Source: GEO Tallies

9. How many addresses that were accepted by the GEO matched to existing addresses in the MTdb for Phase One – Internet Research?
Source: GEO Tallies
10. How many addresses were rejected by the GEO for Phase One – Internet Research?
Source: GEO Tallies
11. How many of the new addresses yielded from the three phases of the operation were not in the final 2010 Census?
Source: GEO Tallies
12. What problems/issues impacted the operations and how were they resolved?
Source: NPC email
13. What were the advantages and disadvantages of having different stateside and Puerto Rico frame building procedures?
Sources: NPC email

4. Limitations

4.1 2010 Census Enumeration Frame Completeness

Due to the lack of data sources, this assessment does not measure the degree of completeness for the enumeration frame development implemented under this program to supplement the 2010 Census enumeration frame.

4.2 Number of Transitory Locations in the Final 2010 Census

This assessment can only provide information regarding the number of Transitory Location (TL) addresses accepted to the MTdb and is unable to provide any data supporting the number of addresses in and/or out of the final 2010 Census. The operational design for this program allowed only the enumerated units at the TL to be eligible to be included in the census. For example, the transitory location can be an RV park where people pay to stay; while the units are the individual structures where people reside at the RV park.

4.3 Number of SBE Locations by the GUs and NSAOs

Since the NPC did not separately track and maintain the source of the data provided by the GUs and NSAOs, this assessment can only provide information regarding the combined numbers of service-based locations and TNSOL locations collected from the GUs and NSAOs.

4.4 Program Budget Expense

This assessment cannot accurately report the actual expenses for the ALU Program because there was no direct method for isolating the budget costs of the ALU program.

5. Results

5.1 How many addresses were collected by the NPC for Phase One – Internet Research?

Table 1 provides the number of addresses collected by the NPC, by GQ type, for Phase One – Internet Research. As shown, the NPC collected a total of 105,780 address records for both stateside and Puerto Rico. The majority of the addresses 96,065 (90.8 percent) collected during Phase One were Group Homes. In addition, the NPC collected 6,197 (5.9 percent) addresses for Shelters and 3,518 (3.3 percent) addresses for Soup Kitchens and Regularly Scheduled Mobile Food Vans during Phase One. The volume of addresses collected suggests that the Internet was a valuable source to obtain addresses to update the Census Bureau’s enumeration frame with an inventory of addresses for group quarters.

Table 1. Number of Addresses Collected by the NPC for Phase One – Internet Research				
GQ Type	Stateside	Puerto Rico	Total	Total (Percent)
Group Homes	95,228	837	96,065	90.82%
Shelters	6,167	30	6,197	5.86%
Soup Kitchens/Regularly Scheduled Mobile Food Vans	3,510	8	3,518	3.33%
Total	104,905	875	105,780	100.00%

Source: CARRA Table 1.

5.2 How many stateside addresses were geocoded for Phase One – Internet Research?

Automated geocoding was applied only to the stateside addresses. Table 2 provides the number of stateside addresses that were geocoded for Phase One – Internet Research, by GQ type. Of the 104,905 stateside addresses collected by the NPC during the Phase One, the CARRA was able to auto-geocode 93,145 addresses with the majority of the geocoded addresses being Group Homes. The remaining 11,760 addresses were sent to the NPC to be clerically geocoded. Of these 11,760 addresses, the NPC was able to geocode 11,579 (98.5 percent). Collectively, the NPC and the CARRA geocoded 104,724 (99.8 percent) of the total number of addresses collected for Phase One. More than 99 percent of the addresses for Group Homes, Shelters, Soup Kitchens and Regularly Scheduled Mobile Food Vans were geocoded. Overall, 99.8 percent of the stateside addresses collected for Phase One -- Internet Research were geocoded.

GQ Type	Stateside Addresses Collected by NPC and Sent to CARRA	Stateside Addresses Auto-Geocoded by CARRA	Stateside Addresses CARRA Sent to NPC for Clerical Geocoding	Stateside Addresses Clerically Geocoded by NPC	Total Stateside Addresses Geocoded by CARRA/NPC	Stateside Addresses Geocoded by CARRA/NPC (Percent)
Group Homes	95,228	84,253	10,975	10,806	95,059	99.82%
Shelters	6,167	5,676	491	486	6,162	99.92%
Soup Kitchens/ Regularly Scheduled Mobile Food Vans	3,510	3,216	294	287	3,503	99.80%
TOTAL	104,905	93,145	11,760	11,579	104,724	99.83%

Source: CARRA Table 2.

5.3 How many Puerto Rico addresses were geocoded by the NPC for Phase One?

All of the Puerto Rico addresses were clerically geocoded by the NPC because they could not be auto-geocoded by the CARRA. Table 3 provides the number of Puerto Rico addresses that were clerically geocoded by the NPC for Phase One – Internet Research, by GQ type. As indicated in Table 3 below, the NPC geocoded 848 (96.9 percent) of the entire 875 Puerto Rico addresses collected. Of these, the NPC was able to geocode 100 percent of the addresses collected for soup kitchens and regularly scheduled mobile food vans. The majority of the Puerto Rico addresses collected for group homes 814 (97.3 percent) were geocoded and 26 approximately (86.7 percent) of the shelters collected were geocoded.

Table 3: Number and Percent of Puerto Rico Addresses Clerically Geocoded by the NPC for Phase One - Internet Research			
GQ Type	Puerto Rico Addresses Collected by NPC	Puerto Rico Addresses Geocoded by NPC	Puerto Rico Addresses Geocoded by NPC (Percent)
Group Homes	837	814	97.25%
Shelters	30	26	86.67%
Soup Kitchens/ Regularly Scheduled Mobile Food Vans	8	8	100.00%
TOTAL	875	848	96.91%

Source: CARRA Table 3.

5.4 How many addresses were collected by the NPC for Phase Two – Mail Solicitation?

Table 4 provides the number of stateside and Puerto Rico addresses the NPC collected for Phase Two – Mail Solicitation, by GQ type. As seen in Table 4, the NPC collected a total of 53,497 addresses for stateside and Puerto Rico from the GUs and NSAOs during the Phase Two – Mail Solicitation. Of these, Targeted Non-Sheltered Outdoor Locations (TNSOLs) was the GQ type that the NPC collected the greatest number of addresses, which was 31,872 approximately (59.6 percent) of the total addresses collected. The large number of TNSOLs was attributed to the massive effort the Census Bureau took to identify and include the increasing number of encampments in the inventory in conjunction with the state of the economy (labor, employment, housing, etc.) during 2010. It is important to note that the Census Bureau relied heavily on the GUs and NSAOs to provide location descriptions for the TNSOLs as there is currently no known inventory of these locations. Shelters comprised 30.5 percent of the addresses collected by the NPC, followed by Soup Kitchens and Regularly Scheduled Mobile Food Vans (9.9 percent). In addition, there were 21 addresses collected that did not have type codes. The Census Bureau decided to pass these addresses through the updating process in order for them to be correctly classified and eventually enumerated.

GQ Type	Stateside Addresses Collected by NPC	Puerto Rico Addresses Collected by NPC	Total Addresses Collected by NPC	Total Addresses Collected by NPC (Percent)
Shelters	16,225	75	16,300	30.47%
Soup Kitchens/ Regularly Scheduled Mobile Food Vans	5,272	32	5,304	9.91%
Targeted Non-Sheltered Outdoor Locations	31,747	125	31,872	59.58%
Missing GQ Type	21	0	21	0.04%
TOTAL	53,265	232	53,497	100.00%

SOURCE: CARRA Tables 4-7.

5.5 How many Stateside addresses were geocoded for Phase Two – Mail Solicitation?

Table 5 provides the number of addresses that were geocoded from the number of stateside addresses collected from Phase Two – Mail Solicitation, by GQ type. It is important to note that the CARRA received 21,518 stateside addresses from the NPC for Phase Two. Of these the CARRA was able to auto-geocode 19,258 addresses. The CARRA sent the remaining addresses that they were unable to auto-geocode to the NPC to be clerically geocoded. The NPC clerically geocoded 1,010 Shelters, 470 Soup Kitchens and Regularly Scheduled Mobile Food Vans, and all of the 31,747 addresses collected for Targeted Non-Sheltered Outdoor Locations. Overall, 33,227 addresses were geocoded by the NPC. Of the total 53,265 stateside addresses collected for Phase Two, the CARRA and NPC collectively geocoded 52,485 addresses which are 98.5 percent of the total number of addresses collected.

Table 5: Number of Stateside Addresses Geocoded for Phase Two – Mail Solicitation				
GQ Type	Stateside Addresses collected by the NPC	Stateside Addresses Geocoded by the CARRA	Stateside Addresses Geocoded by the NPC	Total Stateside Addresses Geocoded
Shelters	16,225	14,377	1,010	15,387
Soup Kitchens/ Regularly Scheduled Mobile Food Vans	5,272	4,865	470	5,335
Targeted Non-Sheltered Outdoor Locations	31,747	0	31,747	31,747
Missing GQ type	21	16	0	16
TOTAL	53,265	19,258	33,227	52,485

Source: CARRA Tables 4-7

5.6 How many Puerto Rico addresses were geocoded for Phase Two – Mail Solicitation?

The NPC was responsible for clerically geocoding the Puerto Rico addresses collected for the Phase Two – Mail Solicitation because these addresses could not be auto-geocoded. Table 6 shows the number of Puerto Rico addresses the NPC geocoded for Phase Two. Of the 232 Puerto Rico addresses collected for Phase Two, the NPC was able to clerically geocoded a total of 227 (97.8 percent). As shown, the NPC clerically geocoded 100 percent of the addresses collected for Soup Kitchens, Regularly Scheduled Mobile Food Vans, and Targeted Non-Sheltered Outdoor Locations and 70 (93.3 percent) addresses for Shelters.

Table 6. Number and Percent of Puerto Rico Addresses Geocoded by the NPC for Phase Two – Mail Solicitation			
GQ Type	Puerto Rico Addresses Collected	Puerto Rico Addresses Geocoded	Addresses Geocoded (Percent)
Shelters	75	70	93.33%
Soup Kitchens/Regularly Scheduled Mobile Food Vans	32	32	100.00%
Targeted Non-Sheltered Outdoor Locations	125	125	100.00%
TOTAL	232	227	97.84%

Source: CARRA Table 5.

5.7 What was the outcome of the Carnival Telephone Solicitation – Phase Three?
(How many addresses were accepted by the GEO?)

The number of carnival management companies contacted, the outcome of the telephone call history, and the number of carnival addresses identified during Phase Three – Carnival/Circus Management Telephone Solicitation is described in Table 7. The NPC obtained contact information from the “Carnival /Circus Booking Guide” to contact 397 Carnival/Circus Management companies by telephone to ask for site locations of carnivals, circuses, and fairs. The Census Bureau needed to know the exact location where the carnival, circus, or fair would be located during the ETL enumeration period. At the end of this phase of the update program, the telephone calls the NPC made to the Carnival/Circus Management companies yielded a total of 26 valid addresses for carnivals. The GEO accepted the 26 addresses and added them to the MTdb. As shown, the call history explains why we were unable to obtain additional carnival locations. The NPC left messages with the 107 contacts, 28 were out of business, 10 refused to provide any information, 26 listings were not a carnival or circus, the telephone number was out of service for 48 contacts, and 65 carnivals were not operational during the ETL time period. It is important to note that 96 contacts asked the Census Bureau to call back in January 2010 when their schedules would be available. The NPC sent the contact information for the companies that requested a call back directly to the FLD.

Table 7: Outcome of Carnival/Circus/Fair Telephone Solicitation for Phase Three -- Telephone Solicitation	
Total Number of Carnival/Circus Management Companies Contacted*	397
Telephone Call History:	
Out of business	28
Not a carnival/circus	26
Left message	107
Refused to provide information	10
Call back in January	96
Carnivals not operational during ETL	65
Telephone not in service	48
Total Number of carnival addresses accepted by the GEO	26

Source: email from NPC.

* NPC used the Carnival/Circus Booking Guide (1/14/08)

5.8 How many new addresses from the ALU Program were in the final 2010 Census?

(How many new addresses yielded from the three phases of the ALU Program were in the final 2010 Census and what were their 2010 Census enumeration statuses?)

It is important to note, new addresses, as defined in the 2010 Census ALU Program, were addresses that did not previously exist in the MTdb, which includes the records the GEO accepted from this program that conformed to the MTdb update rules.

Table 8 provides the number of new address from all phases of the ALU Program and the official 2010 Census Enumeration Status of the new addresses.

The GEO received 111,669 address records that were collected from all three phases of the ALU Program. The GEO accepted 110,026 address records, and rejected 1,643. Of the 110,026 address records accepted by the GEO, the entire ALU Program yielded 26,417 new addresses.

As shown, from all phases of the ALU Program, 26,417 (23.66 percent) of the total number of records the GEO received were new address records that were added to the frame (MTdb). Of these, 3,603 new addresses made it in the final 2010 Census; 3,450 GQs and 153 HUs. It should be noted that the Census Bureau gained a population count of approximately 10,000 in the 2010 Census from the 3,603 new addresses added to the frame (MTdb) from the ALU Program.

For Phase One, Internet Research, the GEO received 75,364 address records from the CARRA. Of these, the GEO accepted 74,841 address records and rejected 523. Of the 74,841 addresses accepted by the GEO, 3,747 were new addresses that were added to the frame (MTdb). Of the 3,747 new addresses, 614 (16.4 percent) made it to the final 2010 Census. There were 461 (12.3 percent) new addresses in the 2010 Census as GQs and 153 (4.1 percent) as HUs.

For Phase Two, Mail Solicitation, the GEO received 35,877 address records from the CARRA, of these; the GEO accepted 35,159 address records and rejected 718. Of the 35,159 addresses accepted by the GEO, 22,644 were new addresses that were added to the frame (MTdb). Of the 22,644 new addresses added to the frame (MTdb), 2,989 (13.2 percent) made it to the final 2010 Census as GQs.

For Phase Three, Carnival Telephone Solicitation, the GEO received 428 address records from the NPC. Of these, the GEO accepted 26 records and added them to the frame (MTdb). There were 402 records that the GEO rejected because they had illegal values and/or block numbers. Data are not available to determine whether any of the 26 carnival/circus addresses made it to the final 2010 Census.

Table 8. Number of New Addresses from the ALU Program in the Final 2010 Census and Their Official 2010 Census Enumeration Status

SOURCE:	Records Received by GEO	Records Rejected by GEO	Addresses Accepted by GEO	New Addresses Added to Frame*	New Addresses In Final 2010 Census**	New Addresses In Final 2010 Census (Percent)	Official 2010 Census Enumeration Status
Phase One Internet Research	75,364	523	74,841	3,747	614	16.39%	
					461	12.30%	GQs
					153	4.08%	HUs
Phase Two SBE Mail Solicitation	35,877	718	35,159	22,644	2,989	13.20%	
					2,989	13.20%	GQs
					0	0.00%	HUs
Phase Three Carnival Telephone Solicitation	428	402	26	26	NA	NA	
Total: All Phases	111,669	1,643	110,026	26,417	3,603	13.64%	
Total: GQs					3,450	13.06%	GQs
Total: HUs					153	0.58%	HUs

Source: SBE ALU Assessment Tallies from GEO

NA- Not Applicable

* New represents records that were not in the MTdb.

** Addresses in the final 2010 Census with a population count of 1 or more.

5.9 How many addresses Matched to existing addresses on the MTdb?

(How many addresses accepted by the GEO from all phases of the ALU Program Matched to existing addresses on the MTdb and what were their 2010 Census enumeration statuses?)

Table 9 provides the number of addresses across all phases of the ALU Program that matched to existing addresses in the MTdb and the official 2010 Census Enumeration Status of the addresses.

For Phase One, of the 74,841 addresses accepted by the GEO, 71,094 (94.5 percent) matched to an existing address in the frame (MTdb). Of these, 37,090 were in the final 2010 Census. There were 25,380 addresses in the 2010 Census as GQs and 11,710 addresses in the final 2010 Census as HUs.

For Phase Two, of the 35,159 addresses accepted by the GEO, 12,515 matched to an existing address in the frame (MTdb). Of these, 3,440 were in the final 2010 Census. There were 3,420 addresses in the 2010 Census as GQs and 20 addresses in the 2010 Census as HUs.

For Phase Three, none of the addresses identified from the ALU Program matched to existing addresses in the frame (MTdb).

Collectively, there were 83,609 addresses from the ALU Program (Phase One and Phase Two) that matched to existing records in the MTdb. Of these, 40,530 (48.5 percent) were in the final 2010 Census. There were 28,880 addresses in the 2010 Census as GQs and 11,730 in the 2010 Census as HUs.

Table 9. Number of Addresses from the ALU Program that Matched Existing Addresses in the Final 2010 Census and Their Official 2010 Census Enumeration Status

SOURCE:	Addresses Received by GEO	Addresses Rejected by GEO	Addresses Accepted by GEO	Addresses Matched Existing on the Frame	Addresses Matched Existing In Final 2010 Census*	Addresses Matched Existing In Final 2010 Census (Percent)	Official 2010 Census Enumeration Status
Phase One Internet Research	75,364	523	74,841	71,094	37,090	52.17%	
					25,380	35.70%	GQs
					11,710	16.47%	HUs
Phase Two SBE Mail Solicitation	35,877	718	35,159	12,515	3,440	27.49%	
					3,420	27.33%	GQs
					20	0.16%	HUs
Phase Three Carnival Telephone Solicitation	428	402	26	0	NA	NA	
Total: All Phases	111,669	1,643	110,026	83,609	40,530	48.48%	
Total: GQs					28,800	71.06%	GQs
Total: HUs					11,730	28.94%	HUs

Source: SBE ALU Assessment Tallies from GEO

NA – Not Applicable

5.10 How many address records did the GEO reject for all phases of the ALU Program?

Table 10 provides the number of address records the GEO rejected for all phases of the ALU Program. It is important to note that not all of the address records that the GEO received were accepted and updated in the frame (MTdb) due to the MTdb update rules.

For Phase One - Internet Research, the GEO rejected 523 address records, less than one percent of the Phase One address records received. There were 473 address records that were rejected because the addresses were incomplete city-style addresses, 49 address records were rejected because the address contained illegal block numbers and only one address record rejected because it contained an illegal missing value.

For Phase Two - Mail Solicitation, the GEO rejected 718 address records, approximately two percent of the Phase Two address records received. There were 495 address records that were rejected because the addresses were incomplete city-style addresses, 107 address records were rejected because the address contained illegal block numbers, and 116 address records rejected because the addresses were duplicates of existing addresses.

For Phase Three - Carnival Telephone Solicitation, the GEO rejected 402 records, 93.9 percent of the Phase Three address records received. There were 389 address records rejected because the addresses contained illegal block numbers and 13 address records rejected because the addresses were incomplete city-style addresses.

In total, the GEO rejected 1,643 address records, 1.5 percent of the 111,669 address records received across all phases of the ALU Program.

Table 10. Number of Address Records Rejected by the GEO

SOURCE:	Reject Code	Number of Addresses Rejected by Reject Code
Phase One - Internet Research	Incomplete City - Style Address	473
	Illegal/Missing Value	1
	Illegal Block	49
Total Phase One		523
Phase Two - Mail Solicitation	Incomplete City - Style Address	495
	Illegal Block	107
	Duplicates	116
Total Phase Two		718
Phase Three – Carnival Telephone Solicitation	Illegal Block	389
	Incomplete City - Style Address	13
Total Phase Three		402
Total All Phases		1,643

Source: ALU Assessment Tallies from GEO

5.11 How many new addresses from the ALU Program were not in the final 2010 Census?

(How many new addresses yielded from the three phases of the ALU Program were not in the final 2010 Census?)

Table 11 provides, by phase, the number of new addresses that were added to the frame (MTdb) from the ALU Program but not included in the final 2010 Census.

It is important to note, new addresses not in the final 2010 Census were addresses with no population counts.

For Phase One – Internet Research, of the 3,747 new addresses added to the frame, 3,133 (83.6 percent), did not make it in the 2010 Census because they were not eligible for DSPO’s Universe Control Management File due to the following reasons:

- 2,955 records (94 percent) were deleted or marked as duplicates during the 2010 Census AC or GQV Operations.
 - 2,423 (82 percent) of the 2,955 address records were deleted or marked as duplicates during the 2010 Census AC Operation, and
 - 532 (18 percent) of the 2,955 address records were not eligible to be enumerated due to actions taken during the 2010 Census GQV Operation.
- 145 records (five percent) were group quarters not in the final 2010 Census.
- 33 records (one percent) were housing units not in the final 2010 Census.

Overall, for Phase One, the greatest number of addresses that did not make it in the 2010 Census was 2,955, which were records deleted or marked as duplicates during the 2010 Census Address Canvassing or GQV Operations.

For Phase Two – Mail Solicitation, of the 22,644 addresses added to the frame, 19,655 (86.8 percent), did not make it in the 2010 Census. Overall, for Phase Two, the greatest number of addresses that did not make it in the 2010 Census was 14,770 addresses that were GQs that were vacant at the time of the enumeration. The vacant GQs will remain in the MTdb for ongoing census surveys and subsequent Census GQ operations.

For Phase Three – Carnival Telephone Solicitation, 26 site location addresses were added to the frame. This assessment does not have data to support whether or not they were included in the 2010 Census.

As seen in Table 11, of the 26,417 new addresses added to the frame from all three phases of the ALU Program, there were 22,788 (86.26 percent) new addresses added to the frame from Phase One and Phase Two that did not make it in the 2010 Census.

Table 11. Number of New Addresses from the ALU Program Not in the Final 2010 Census			
SOURCE:	New Addresses Added to Frame	New Addresses Not In Final 2010 Census	New Addresses Not In Final 2010 Census (Percent)
Phase One <i>Internet Research</i>	3,747	3,133	83.61%
Phase Two <i>Mail Solicitation</i>	22,644	19,655	86.80%
Phase Three <i>Carnival Telephone Solicitation</i>	26	NA	NA
Total: All Phases	26,417	22,788	86.26%

Source: SBE ALU Assessment Tallies from GEO

NA – Not Applicable

5.12 What were the reasons why new addresses were not in the final 2010 Census?

(What were the reasons why the new addresses yielded from Phase One and Phase Two of the ALU Program were not in the final 2010 Census?)

Table 12 defines the reason why addresses identified through the ALU Program for Phase One and Phase Two, which were new and added to the frame, were not in the final 2010 Census. As seen in Table 12, of the 26,391 new addresses added to the frame (MTdb) from Phase One and Phase Two, there were 22,788 addresses not in the final 2010 Census.

For Phase One, of the 3,747 new addresses added to the frame (MTdb), 3,133 were not in the final 2010 Census. There were 2,955 addresses not eligible for the UC&M file due to actions taken (deletes/duplicates) during the 2010 Census Address Canvassing Operation and the 2010 Census Group Quarters Validation Operation. The reasons why the remaining GQs were not in the final 2010 Census are as follows:

- 68 vacant GQs,
- 27 non-existent GQs,
- 33 duplicate GQs,
- 17 GQs validated as a non-residential address, and
- 33 were classified as housing units and vacant during enumeration.

For Phase Two, of the 22,644 new addresses added to the frame (MTdb) 19,655 were not in the final 2010 Census. As seen in Table 12, the reasons why these GQs were not in the final 2010 Census are as follows:

- The majority, 14,770 were vacant GQs,
- 1,523 were GQs coded as non-existent,
- 1,422 were duplicate GQs,
- 1,904 GQs were validated as a non-residential address,
- 24 addresses had an enumeration status as unknown, and
- 12 were deleted, not eligible for the UC&M filed due to actions taken during enumeration.

It is important to note that for Phase Three, we were unable to track the enumeration status of the TLs. By design, the TLs were not linked to the Transitory Units; therefore, no addresses from Phase Three were included in the total number of the addresses in the final 2010 Census.

Table 12. Reasons Why New Addresses from Phase One and Phase Two of the ALU Program Were Not in the Final 2010 Census				
SOURCE:	New Addresses Added to the Enumeration Frame	New Addresses Not In Final 2010 Census	New Addresses Not In Final 2010 Census (Percent)	REASON (Census Status)
Phase One <i>Internet Research</i>	3,747	3,133	83.61%	Phase 1: Total
		2,955	78.86%	Address – not eligible for UC&M file due to actions taken during the 2010 Census AC/GQV Operations
		68	1.81%	Vacant GQs
		27	0.72%	Non-Existent GQs
		33	0.88%	Duplicate GQs
		17	0.45%	Non-Residential GQs
		33	0.88%	Housing Units
Phase Two <i>Mail Solicitation</i>	22,644	19,655	86.80%	Phase 2: Total
		12	0.05%	Address – no status Deleted during enumeration
		14,770	65.23%	Vacant GQs
		1,523	6.73%	Non-Existent GQs
		1,422	6.28%	Duplicate GQs
		1,904	8.41%	Non-Residential GQs
	24	0.11%	Unknown GQs	
Phase One and Phase Two	26,391	22,788	86.26%	Total

Source: SBE ALU Assessment Tallies from GEO

5.13 What were the GQ type codes of those addresses not in the Final 2010 Census?

(What were the type codes for the new addresses yielded from the Phase Two, Mail Solicitation Phase, of the ALU Program that were not in the final 2010 Census?)

Table 13 provides the specific GQ type codes for the 19,655 new addresses from Phase Two that were added to the MTdb but were not included in the final 2010 Census. After obtaining the enumeration status for these GQs, the data show that the majority of the GQs that were not in the 2010 Census were TNSOLs 19,009 (96.7 percent). Of these, 14,604 TNSOLs were vacant, 1,337 were non-existent, 24 had an unknown status, 1,324 were duplicates, and 1,720 were non-residential. Overall, vacant GQs accounted for 14,770 (75.1 percent) of the total number of addresses that were not in the final 2010 Census. The total number of group quarters represented in this table had zero population during the enumeration and were not included in the 2010 Census.

Table 13. GQ Type Codes of the New Addresses from Phase Two That Were Not in the Final 2010 Census		
Enumeration Status Code Description	GQ Type	Number of New GQ Addresses not in the Final 2010 Census
No Enumeration Status Code	Shelters	6
	Soup Kitchens/RSMFVs	6
GQ Not in Census - Vacant	Shelters	124
	Soup Kitchens/RSMFVs	42
	TNSOLs	14,604
GQ Not in Census - Non-Existent	Shelters	120
	Soup Kitchens/RSMFVs	66
	TNSOLs	1,337
GQ Not in Census - Unknown Status	TNSOLs	24
GQ Not in Census - Duplicate	Shelters	72
	Soup Kitchens/RSMFVs	26
	TNSOLs	1,324
GQ Not in Census - Non-Residential	Shelters	154
	Soup Kitchens/RSMFVs	30
	TNSOLs	1,720
Total GQs Not In Final 2010 Census 19,655		

Source: ALU Assessment Tallies from GEO

5.14 How many Matched addresses were not in the final 2010 Census?

(How many Matched addresses yielded from the three phases of the ALU Program were not in the final 2010 Census?)

Note: The matched addresses not in the final 2010 Census were addresses with no population counts.

Table 14 provides, by phase and source, the number addresses that were matched addresses that already existed in the MTdb but not included in the 2010 Census.

For Phase One – Internet Research, 71,094 addresses matched existing addresses in the frame (MTdb). Of these, 34,004, which is 47.8 percent of the total number of matched addresses, did not make it in the 2010 Census.

For Phase Two – Mail Solicitation, 12,515 addresses matched existing addresses in the frame (MTdb). Of these, 9,075, which is 72.5 percent of the total number of matched addresses, did not make it in the 2010 Census.

For Phase Three – Carnival Telephone Solicitation, 26 site locations were added to the frame. This assessment does not have data to support whether or not they were included in the 2010 Census.

As seen in Table 14, of the 83,609 addresses that matched existing addresses in the MTdb from all three phases of the ALU Program, there were 43,079 (51.5 percent) of the total number of matched addresses that did not make it in the 2010 Census.

Table 14. Number of Matched Addresses from the ALU Program Not in the Final 2010 Census			
SOURCE:	Addresses Matched to the Frame	Matched Addresses Not In Final 2010 Census	Matched Addresses Not In Final 2010 Census (Percent)
Phase One <i>Internet Research</i>	71,094	34,004	47.83%
Phase Two <i>Mail Solicitation</i>	12,515	9,075	72.51%
Phase Three <i>Carnival Telephone Solicitation</i>	0	NA	NA
Total: All Phases	83,609	43,079	51.52%

Source: SBE ALU Assessment Tallies from GEO

NA – Not Applicable

5.15 What was the Address Status of Addresses that Matched to the MTdb for Phase One?

(What was the address status of the addresses that matched to the MTdb for Phase One, Internet Research?)

Table 15 shows that the GEO accepted 74,841 addresses from Phase One, Internet Research. Of the addresses accepted, the majority 71,094 (95 percent) matched to existing addresses on the MTdb. Of these, 17 matched to sensitive GQs, 30,734 matched to existing GQs, OLQs, Special Places (SPs), or TLs. All of the 71,094 addresses were marked as OLQs and included in the workload universe for the 2010 Census QV Operation to be correctly validated and classified.

Table 15. Existing Address Status of the Matched Addresses from Phase One, Internet Research			
SOURCE:	Total Addresses Accepted by GEO	Status of Matched Address	Number of Matched Addresses
Phase One <i>Internet Research</i>	74,841		
		Sensitive GQs	17
		GQs, OLQ, SP, or TL	30,734
		HU, non-Residential	40,343
		Total Number of Existing Addresses	71,094

Source: ALU Assessment Tallies from GEO

5.16 What were the results of records matching to existing HU/Non-Residential Addresses?
(What were the final Census status results for the address records identified during Phase One that matched to an existing HU or Non-Residential address?)

It is important to note that for addresses from Phase One, Internet Research, that matched to the MTdb, the GEO flagged those addresses as Other Living Quarters (OLQs) which allowed them to be included in the workload universe for the 2010 Census GQV Operation. During GQV, addresses were validated and classified.

Table 16 shows the number of addresses identified during Phase One that matched to non GQ/OLQ addresses in the MTdb and provides the final enumeration status for the address. As described, from the Phase One, Internet Research, the GEO classified 40,343 records that were housing units or non-residential records in the MTdb as OLQs, allowing them to be eligible for the 2010 Census GQV Operation. Of these, 15,001 were HUs that were re-classified and in the final 2010 Census as GQs. In addition, 8,905 records that were classified as HUs were actually in the final 2010 Census as HUs. There were 366 records that the DSPO identified the census enumeration status as “HU Not in the Census” and 12,724 records that were ineligible for the DSPO’s UC&M file. Therefore, sending the records from the Internet Research that matched to existing addresses in the MTdb to the 2010 Census GQV Operation allowed the address to be updated in the frame and correctly classified.

Table 16. Final Census Status Results for the Address Records Identified During Phase One That Matched to an Existing HU or Non-Residential Address	
Enumeration Status Code Description	Number of Addresses That Matched Existing HU/Non-Residential Addresses from Phase One
No Final Status	12,724
HU Not in Census	366
HU In Census (Respondent Form)	4,768
HU In Census (Enumerator Form)	4,137
GQ Not in Census - Vacant	1,838
GQ Not in Census - Non-Existent	589
GQ Not in Census - Unknown Status	11
GQ Not in Census - Duplicate	614
GQ Not in Census - Non-Residential	295
GQ In Census	15,001
Total	40,343

Source: ALU Assessment Tallies from GEO

5.17 What were the reasons why the Matched addresses were not in the final 2010 Census?

(What were the reasons why the Matched addresses yielded from Phase One and Phase Two of the ALU Program were not in the final 2010 Census?)

Table 17 defines the reasons why addresses identified through the ALU Program for Phase One and Phase Two, which matched to existing addresses in the MTdb, were not in the final 2010 Census. There were 83,609 addresses from Phase One and Phase Two that matched to existing addresses in the frame (MTdb). Of those matched addresses, 43,079 (51.5 percent) were not in the final 2010 Census.

For Phase One, of the 71,094 addresses that matched to existing addresses in the MTdb, 34,004 (47.8 percent) were not in the final 2010 Census. Of these 27,658 addresses, were not eligible to move to the UC&M file due to negative actions taken during the 2010 Address Canvassing Operation or the 2010 Census Group Quarters Validation Operation. The reasons why the remaining GQs were not in the final 2010 Census are as follows:

- 794 were HUs,
- 3,063 were vacant GQs,
- 890 were non-existent GQs,
- 1,128 were duplicate GQs,
- 23 GQs with a final enumeration status of unknown, and
- 448 GQs that were validated as a non-residential address.

For Phase Two, of the 12,515 addresses that matched to existing addresses in the MTdb, 9,075 were not in the final 2010 Census. As seen in Table 17, the reasons why these GQs were not in the final 2010 Census are as follows:

- 1 address was not eligible to move to the UC&M file due to negative actions taken during the enumeration.
- 2,607 addresses were vacant GQs.
- 1,728 addresses were non-existent GQs.
- 2,562 addresses were duplicate GQs.
- 4 addresses were GQs with an unknown enumeration status.
- 2,173 addresses were GQs were validated as a non-residential address.

Table 17. Reasons Why Matched Addresses from Phase One and Phase Two of the ALU Program Were not in the Final 2010 Census				
SOURCE:	Matched Addresses Added to the Enumeration Frame	Matched Addresses Not In Final 2010 Census	Addresses Not In Final 2010 Census (Percent)	Reason Not In Final 2010 Census (Status)
Phase One	71,094	34,004	47.83%	Phase One: Total
		27,658	38.90%	Address – Not Eligible for UC&M File Due to actions taken during the 2010 Census AC/GQV Operations
		794	1.12%	HUs
		3,063	4.31%	Vacant GQs
		890	1.25%	Non-Existent GQs
		1,128	1.59%	Duplicate GQs
		448	0.63%	Non-Residential GQs
		23	0.03%	Unknown GQs
Phase Two	12,515	9,075	72.51%	Phase Two: Total
		1	0.01%	Address – Not Eligible for UC&M File Due to Actions Taken During Enumeration
		2,607	20.83%	Vacant GQs
		1,728	13.81%	Non-Existent GQs
		2,562	20.47%	Duplicate GQs
		2,173	17.36%	Non-Residential GQs
	4	0.03%	Unknown GQs	
Phase One and Phase Two	83,609	43,079	51.52%	Total Phase One and Two

Source: SBE ALU Assessment Tallies from GEO

5.18 What problems/issues impacted the 2010 ALU Operation?

Phase Three – Carnival Telephone Solicitation

The greatest problem experienced during the 2010 Census ALU Program is defined below:

- Problem:** Timing of the request for location information from the carnival management companies was problematic. The Census Bureau contacted the carnival management companies between June and August 2009 asking where their venues would be located from March 16 to April 22, 2010. Carnival event schedules for 2010 were not available between June and August 2009 for most companies.
- Solution:** Provided the FLD with the listing of the carnival management companies that requested a callback in January 2010 (the year of the census) to allow the LCOs to locally add these site locations to the 2010 Census ETL workload.
- Recommendation:** Identify the carnival management companies that do not have their schedules available early in the year prior to the decennial census. Provide this listing to the FLD and allow them to add the site locations to the ETL workload in the LCOs. Obtain the most current available carnival listings and contact the carnival management companies later in the year prior to the decennial census. Send these site locations directly to the FLD to locally update the enumeration frame. Search for a source of carnival management companies in Puerto Rico.

5.19 What were the advantages and disadvantages of different frame building procedures?
(*What were the advantages and disadvantages of having different stateside and Puerto Rico Frame building procedures?*)

ADVANTAGES:

- Puerto Rico addresses have different formats that may include urbanization, condominium name, and location description which required additional data fields.

DISADVANTAGES:

- Resources were not available to the CARRA to develop auto-coding software for the Puerto Rico addresses.
- Two different geocoding procedures were developed due to the various address formats applicable to the Puerto Rico addresses. The addresses could not be auto-geocoded using the system for geocoding stateside addresses.
- Due to the differences in the address formats, two separate file layouts were created for the stateside and Puerto Rico addresses.
- Two separate CRDs were created for the MAF/TIGER updates for the Phase Two, Mail Solicitation.
- Due to the differences in the address formats applicable to the Puerto Rico addresses, the NPC developed two different Visual Basic screens.
- One geocoding system was not available for stateside and Puerto Rico addresses. Clerical geocoding was done on the Puerto Rico addresses. Auto-geocoding was done on the stateside addresses.
- Since Puerto Rico addresses could not be auto-geocoded, the NPC used an extract from the TIGER database and in-house software search utility (SUMO) to geocode the addresses.
- Two separate systems were required for geocoding. Resources were not available to develop a system to geocode stateside and Puerto Rico addresses.

6. Related 2010 Census Assessment Reports

- The 2010 Census Group Quarters Validation Operational Assessment documents the results of the 2010 Census GQV Operation to include the distribution of Other Living Quarters validated as Group Quarters, Housing Units, Transitory Locations, Non-Residentials, Vacants, or Nonexistent (Deletes). It also describes the data capture results and the update actions to the MTdb and Reinterview.
- The 2010 Census Service-Based Enumeration Operational Assessment Report documents the results of the 2010 Census SBE Operation and records the population data by defined service-based GQ types. It also reports the number of added service-based GQs and the number of service-based GQs that no longer exist.
- The 2010 Census Group Quarters Enumeration Assessment documents the results of the 2010 Census GQE Operation and records the population data by defined GQ types, reports the number of GQs added and the number of GQs that no longer existed. In addition, the assessment provides data that can be used for the next planning cycle for the 2020 Census.
- The 2010 Census Enumeration at Transitory Locations Assessment documents results and major findings about the 2010 Census ETL Operation to inform decision makers of recommended changes for future censuses.

7. Key Lessons Learned, Conclusions, and Recommendations

7.1 Lessons Learned

The key lessons learned from the 2010 Census Address List Update Program for Service-Based Enumeration, Group Homes and Carnival Locations Assessment are described below:

- **Telephone Follow-Up** – Although, this activity was not originally planned, a decision was made to implement it due to the low response rates from the governmental units and advocates. While conducting the telephone follow-up, the staff at the NPC found that some of the HEOs of the GUs that received the mail redirected the solicitations to other officials, which led to forms being lost, delayed, or misdirected. For any future solicitation requests to the GUs and NSAOs, the telephone follow-up should be a planned activity. The telephone follow up was imperative to aid in reducing the rate of non-response to the SBE and TNSOL mail solicitations, obtaining the correct contact information for key respondents, and improving coverage.
- **Spanish Translation** – Translating the letters and forms used for this program into Spanish took longer than originally planned causing numerous schedule delays. The planned duration for translation was 30 days; translation actually took twice as long because many of the products also needed adaptation. When developing the schedule, allow for at least two months lead-time for products that need Spanish translation and adaptation.
- **Establish Partnerships** – Early in the planning process, establish and maintain partnerships with members of the SDCs, REAC, Census Advisory Committees and Field Partnership Assistants to inform them of the Census Bureau’s plans to enumerate people at service-based locations. This is imperative to create awareness of the Census Bureau’s data collection programs. In addition, the partnerships provide an opportunity for us to employ their assistance to influence their constituents to support the Census Bureau’s efforts for collecting SBE locations, which could ultimately reduce the non-response rates.
- **Provider Source Code Requirement for GUs and NSAOs** – require all data collectors to maintain the source code on every record collected from all entities in a designated repository in order to retrieve it to distinguish which entity provided the address record.
- **Lessons Learned Documentation** – Documenting the lessons learned was conducted with the ALU OIT at the end of the program making it somewhat difficult to recall some of the activities that were successes and failures. To improve the process of gathering and documenting lessons learned, create the lessons learned document at the beginning of the project, document lessons learned as situations occur, and update and maintain the document through the life cycle of the project. Include lessons learned in the ongoing meeting notes. Allow time at either the beginning or end of each meeting to collect this information.

7.2 Conclusions

The 2010 Census Address List Update Program for Service-Based Enumeration, Group Homes, and Carnival Locations was effective as it supplemented the 2010 Census enumeration frame with addresses for group homes, service-based locations, carnival sites, and location descriptions for targeted non-sheltered outdoor location and aided in the process for the addresses to be verified and correctly classified.

Overall

The NPC collected 159,705 addresses across the entire 2010 Census ALU Program. After editing and unduplication, the NPC sent 111,669 address records to the GEO to update the address frame. The GEO accepted 110,026 address records and rejected 1,643 address records due to illegal blocks, missing values, and incomplete city-style address.

There were 26,417 new addresses added to the enumeration frame for subsequent census operations. Of these, 3,603 (13.6 percent) were in the final 2010 Census; 3,450 as group quarters and 153 as housing units. The program added 3,603 new addresses in the final 2010 Census that yielded a census population count of approximately 10,000 people who may have been missed otherwise.

There were 22,788 (86.3 percent) addresses not in the final 2010 Census because they had no population counts during enumeration. Some of the reasons were: group quarters that had an enumeration status of vacant or non-existent and vacant housing units. In addition, there were addresses from Phase One that were not eligible for the UC&M file due to actions (deletes/duplicates) taken during the 2010 Census Address Canvassing and 2010 Census GQV Operations.

All GQs that were vacant at the time of the 2010 Census enumeration will remain in the MTdb for ongoing census surveys and future censuses.

Not surprisingly, there were 83,609 addresses that matched to an existing record in the MTdb. The matching records were correctly classified and 28,880 were in the final 2010 Census as group quarters and 11,730 as housing units.

Transitory units are considered to be housing units. Since the transitory locations, by design, are not linked to the transitory units, data are not available to determine whether the remaining addresses for the 26 transitory locations were in the 2010 Census.

Phase One

The Internet Research conducted by the NPC was an effective methodology for updating the Census Bureau's address frame with group quarters. During Phase One of the program, the NPC collected 105,780 address records. After edits and unduplication, the GEO received 75,364 address records and accepted 74,841. Of these, there were 3,747 new addresses added to the 2010 Census Enumeration Frame. Of these 461 were in the final 2010 Census as group quarters and 153 as housing units. In addition, addresses identified from this phase were marked as OLQs and sent to the 2010 Census Address Canvassing and 2010 Census GQV Operations to be at correctly classified. The new addresses

collected from this update program supplemented the frame with addresses that enabled populations of people living or staying in group quarters to be included in the 2010 Census. The addresses that were not in the final 2010 Census were verified during enumerations and had no population counts.

It is evident that the majority, 71,094 (95 percent) of the address records collected during Phase One matched to addresses already existing on the MTdb. The classification of the addresses that matched was validated and correctly changed to a housing unit, group home, or service-based location during the 2010 Census GQV Operation. Of the 71,094 addresses that matched to the MTdb, 25,380 matched to a record that was classified as a GQ, an OLQ, a Special Place, or a Transitory Location. The remaining 11,710 addresses matched to a record classified as a housing unit. There were 15,001 addresses identified during Phase One that matched to a housing unit address in the MTdb that were validated and correctly reclassified as a group home or as a service-based location during the 2010 Census GQV Operation.

Thus, it can be concluded that the Internet Research, conducted during Phase One of the Address List Update Program, was an effective methodology for identifying group homes, shelters, soup kitchens, and regularly scheduled mobile food vans. This phase of the program updated the inventory of service-based locations, adding new addresses, and providing valuable input to the update process for validating and correctly classifying addresses to update the MTdb for the 2010 Census.

Phase Two

The Census Bureau relied heavily on the HEOs at GUs and members from NSAO to pre-identify addresses for shelters, soup kitchens, regularly scheduled mobile food vans, and targeted non-sheltered outdoor locations where people experiencing homelessness could be found. Due to the extensive outreach to these entities, the NPC collected 53,497 address records during the Mail Solicitation, Phase Two, of the 2010 Census ALU Program. After edits and unduplication, the GEO received 35,877 address records and accepted 35,159 addresses. From the accepted records, the program yielded 22,644 (85.72 percent) new addresses that were added to the 2010 Census enumeration frame. Of the 22,644 new addresses, 2,989 were in the final 2010 Census as GQs. There were 12,515 addresses identified during this phase of the program that matched to existing records in the MTdb. There were 3,420 addresses that matched to a record classified as group quarters and 20 addresses matched to housing units.

During Phase Two, the Census Bureau went through an extensive effort soliciting governmental units and advocates to collect service-based locations. Overall, the outreach effort was effective as the Census Bureau was able to develop an inventory of service-based locations from this phase of the update program and added new group quarters to the frame. The mail solicitation was most effective at collecting targeted non-sheltered outdoor locations as there is no known inventory or other sources available to obtain these locations. Although the Census Bureau experienced challenges while implementing the mail solicitation activities, the follow-up telephone calls to the advocates and governmental units were instrumental for identifying and locating the correct contact person, and obtaining information from the non-responding governmental units and advocates, thereby decreasing the number of non-respondents.

There were 19,655 new addresses that were not in the 2010 Census from Phase Two. The GQs that had the enumeration status code “Vacant” accounted for 14,770 (75.1 percent) of the total number of addresses that were not in the final 2010 Census. Of the new addresses that were vacant GQs, the majority, 14,604 were vacant targeted non-sheltered outdoor locations. Unfortunately, this report does not have data to support or reflect on the reasons why there was such a high volume of vacant targeted non-sheltered outdoor locations during the 2010 Census. Despite the Census Bureau’s extensive effort to create an inventory of these places to provide an opportunity for people experiencing homelessness to be included in the decennial census, the Census Bureau still faces challenges in counting such a mobile population.

Phase Three

The Carnival Telephone Solicitation conducted during Phase Three of the ALU Program was not an efficient methodology to update the 2010 Census address frame for carnivals, circuses, and fairs. During the solicitation, the Census Bureau contacted the carnival management companies between June and August 2009. There were 96 (24.2 percent) contacts from the carnival management companies that asked to be called back in January 2010 because many did not have their carnival event schedules for 2010 available that far in advance and did not know where the venues would be located during the enumeration period for the 2010 Census ETL Operation. Of the 397 carnival companies contacted, only 26 (6.55 percent) were identified as valid carnival sites and included in the 2010 Census Enumeration Frame.

Since there were so many companies that did not have their schedules available in the year prior to the decennial census, it indicates that perhaps the Census Bureau should consider developing an inventory of these locations in the year of the decennial census. In addition, the Census Bureau used the 2008 version of the carnival management listing that was outdated and included only stateside companies. It is suggested that the Census Bureau should attempt to find a more recent carnival listing for stateside and conduct research to determine whether carnival listings exist for Puerto Rico.

Clearly, the data suggest that the Carnival Telephone Solicitation was effective as it did update the frame but not an efficient methodology for developing an inventory of carnival, circus, and fair locations. It is suggested that the Census Bureau seek an alternative methodology to supplement the frame for these types of transitory locations.

7.3 Recommendations

These recommendations are intended to assist the Census Bureau develop an improved methodology for the enumeration frame development process to ensure that the enumeration frame supporting future censuses is most complete for service-based locations, group homes, targeted non-sheltered outdoor locations, and carnival locations. The key recommendations derived from this assessment are described below:

- **Create** a system at the Census Bureau to accept electronic data submissions in various types of formats from the entities from which the Census Bureau requests information to support frame development.
- **Consider** an on going effort to involve the GUs and NSAOs in the process to identify targeted non-sheltered outdoor locations for future enumeration as there is no known inventory of these places.
- **Plan and implement** necessary follow-up activities (second mailings and phone calls) to governmental units and national and state advocacy organizations to minimize non-response and to improve coverage.
- **Require** all data collectors to maintain the source code on address records collected from external sources in order to distinguish which entity provided the information for the address record.
- **Explore** various methodologies to update address lists for shelters, soup kitchens, regularly scheduled mobile food vans, targeted non-sheltered outdoor locations and group homes.
- **Develop** an alternative methodology to identify the addresses for carnivals, circuses, and fairs to create the frame to support future Enumeration at Transitory Locations operations.

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- Geography Division (GEO)
- National Processing Center (NPC)
- Population Division (POP)
- Special Populations Programs Branch (SPPB)
- Field Division – Group Quarters Branch (GQB)

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Appendix A: List of ALU Assessment Acronyms

<u>Acronym</u>	<u>Definition</u>
AC	Address Canvassing
ACSD	Administrative Customer Services Division
ADDUP	Address List Update File
ALU	Address List Update
ALUO	Address List Update Operation
ARU	Administrative Records Updating
CARRA	Center for Administrative Records Research and Applications
CIG	Census Integration Group
CL	Carnival Location
CLMSO	Customer Liaison and Marketing Service Office
CQAS	Correspondence Quality Assurance Staff
CR	Change Request
CRD	Customer Requirements Document
CRLA	California Rural Legal Assistance
DCATS	Data Capture And Tracking System
DDCB	Decennial Date Collection Branch
DID	Data Integration Division
DMD	Decennial Management Division
DSB	Document Services Branch
DSCMO	Decennial Systems and Contracts Management Office
DSPO	Decennial Systems and Processing Office
DSSD	Decennial Statistical Studies Division
ETL	Enumeration at Transitory Locations
FAQ	Frequently Asked Questions
FLD	Field Division
FSCPE	Federal-State Cooperative for Population Estimates
GB	Geography Branch
GEO	Geography Division
GPP	Geographic Program Participant
GQ	Group Quarters
GQAV	Group Quarters Advance Visit
GQE	Group Quarters Enumeration
GQV	Group Quarters Validation
GU	Government Unit
HEO	Highest Elected Official
HQ	Headquarters
HU	Housing Unit
HUD	Housing and Urban Development
LCO	Local Census Office
LKU	Local Knowledge Update
LUCA	Local Update of Census Addresses
MAF	Master Address File

MAFID	Master Address File Identification Number
MTdb	Master Address File/Topologically Integrated Geographic Encoding and Referencing Database
NAO	National Advocates Organization
NSAO	National and State Advocacy Organizations
NPC	National Processing Center
OIT	Operational Integration Team
OLQ	Other Living Quarters
OMB	Office of Management and Budget
PHPB	Population and Housing Programs Branch
PM	Project Manager
POP	Population Division
PRIAO	Puerto Rico Island Area and Oversees Branch
QA	Quality Assurance
RCC	Regional Census Center
RD	Regional Director
REAC	Race and Ethnic Advisory Committee
RSMFV	Regularly Scheduled Mobile Food Van
RV	Recreational Vehicle
SBE	Service-Based Enumeration
SDC	State Data Center
SP	Special Place
SP/GQ	Special Places/Group Quarters
SPPB	Special Populations Program Branch
SRP	State Redistricting Program
SUMO	Search Utility Mapping Utility
TIGER	Topologically Integrated Geographic Encoding and Referencing Database
TL	Transitory Location
TNSOL	Targeted Non-sheltered Outdoor Location
UAA	Undeliverable As Addressed
UC&M	Universe Control and Management
USPS	U.S. Postal Services
ZIP	Zoning Improvement Plan

Appendix B: 2010 Census ALU Lessons Learned

“Project Lessons Learned – Address List Update Operation for Service-Based Enumeration, Group Homes, and Carnival Locations” June 8, 2011

Project Strengths

- A.** Effective Team Leadership - The project manager kept the project on-track. This was a complicated process because there were three phases to the project and the phases were occurring simultaneously by staff across several divisions/branches and in multiple locations.

- B.** Effective Team Meetings - The project manager provided agendas and materials supporting the project in advance of the meetings. This provided ample time for team members to review the materials prior to the meeting and to prepare discussion items. During the meeting, all concerns were discussed, action items were assigned and issues were resolved. Draft meeting minutes were issued and forwarded in a timely manner to all of the team members. The team members had the opportunity to review and provide updates/comments to the draft minutes. The draft minutes were approved and finalized at the following team meeting. The project manager maintained a Service-Based Enumeration (SBE) Action Item Log. This included the action item, who it was assigned to, the date the action item was opened, the date action item was closed and the resolution. These actions items were included in the meeting minutes and each action item was reviewed at the team meeting until it was resolved.

- C.** Effective Team - The interdivisional Address List Update Operation (ALUO) team members were comprised of staff from Decennial Management Division (DMD), Population Division (POP), National Processing Center (NPC), Field Division (FLD), Geography Division (GEO), Data Integration Division (DID), and the Customer Liaison and Marketing Service Office (CLMSO). The team members cooperated with each other and resolved problems as they occurred. Team members provided innovative solutions and outstanding customer services to this 2010 Census operation. Each division’s representative provided strong leadership in the following areas:
 - 1) DMD – managed cost/budget, master activity scheduling, scribing, workflow diagram development, and letter/form printing issues
 - 2) GEO - initiated operational planning, assessment, risk management, customer requirements document scheduling and related documentation development; and updating of the MTdb issues
 - 3) NPC - initiated data collection planning, scheduling, printing, data keying, geocoding, processing, cost control, scheduling, staffing, quality assurance, and training issues
 - 4) FLD - resolved enumeration preparation, form development, and field operation issues
 - 5) CLMSO - obtained partnership participation and resolved competing operation issues
 - 6) CARRA - managed automated geocoding and address/location description unduplication issues
 - 7) POP - directed planning, team logistics, quarterly program review, and subject matter issues

- D.** Effective Subteams – The ALUO team’s best practice was to rely on small subteams to resolve issues that required the knowledge of subject matter experts from the various divisions and reporting the solutions to the entire team. For example,
- 1) GEO, FLD, and CARRA subteam led the development of the record layout for the address MAFID matching and unduplication, and process for the Enumeration Universe,
 - 2) DMD, POP, NPC, and FLD subteam responding to GQ related questions generated by NPC during the live data capture and processing operation,
 - 3) NPC, DMD and POP subteam led in the development of scripts, manuals, geocoding procedures, and questionnaires, and
 - 4) FLD and CLMSO subteam initiated and engaged partnership and outside stakeholders’ participation.
- E.** Risk Management - The ALUO team followed the 2010 Census Risk Management process. The team developed risk mitigation strategies for each risk that was identified and linked each risk to the 2010 Census Risk Register (maintained by DMD). Senior management reported on the risks during the quarterly program review. Risks were closed when appropriate. For example, the ALUO team activated mitigation and contingency plans to: 1) Create an Insert for the TNSOL Mail-out identifying/describing the revised TNSOL definition that included tent, RV, and car encampments, 2) Add a SBE and TNSOL telephone follow-up process/procedure contacting the GUs and advocates to request their address updates by the deadline, and 3) Obtain partnerships follow-up assistance to reduce nonresponse to the mail-out phase.
- F.** Geographic Programs (GEO), Operation Integration Team (OIT) Oversight – The GEO OIT provided the ALUO team with direct guidance and support for updating the 2010 Census Enumeration Universe in time for the 2010 Census Group Quarters Enumeration field operations. The advantage of GEO OIT’s leadership in oversight for the team was that it allowed the ALUO project manager to: 1) Directly represent the ALUO team on GEO OIT related issues, and 2) Share in the planning related to the schedule and the planning and requirements for the Enumeration Universe directly within a larger GEO forum.
- G.** Schedule Management - The team rapidly developed the activity list and baseline start and finish dates for the project. The schedule was updated weekly, as required and schedule changes requests were made once the team agreed on them. The end result was that all address/location updates that were collected in each phase were inserted into the MTdb in time for the subsequent field operations.
- H.** Effective flow charts – Both a high level and a detailed flow chart were useful to identify the work flow and time line for the three different operations occurring simultaneously: Internet research, Mail-out and follow-up survey, and the Telephone solicitation.
- I.** Quickly Resolved Unexpected Issues – The team rapidly responded to new issues as they arose so issues never became a problem. For example, a couple of months before the close-out of the project, the team requested and the POP agreed to change the TNSOL definition to include tents, recreational vehicles, and car encampments. The team included the new TNSOL definition in the mail-out follow-up and telephone follow-up procedures to capture the additional newly defined

TNSOLs. The end result was the capture of addresses/location descriptions that resulted in additional coverage improvement for the 2010 Census.

- J. Effective Partnerships** – The team established several partnerships to assist with obtaining address listings for this program. The State Data Centers partnership was established to help reduce the non-response rates to the mail solicitation. These partners used Listservs and made direct contacts to governmental entities that had not responded to encourage them to participate in the TNSOL operation. In addition, the Team partnered with the 2010 Census Advisory Committee members, the State Homelessness Advisory Committee members (State coordinators) and members of the Race and Ethnicity Advisory Committees (REAC) to participate in the Census Bureau’s effort to solicit listings of the TNSOLs in areas where people experiencing homelessness are known to live or stay without paying. The federal agency that the Census Bureau partnered with was Housing and Urban Development (HUD). The Census Bureau used HUD’s regularly updated Website that contained an online public database that identifies addresses and contact information to develop the listings for the national and states advocacy organizations for people experiencing homelessness. Partnership was also established with Field Partnership Assistants who were in the field collecting information about any possible locations where tent, RV, and car encampments, and Regularly Scheduled Mobile Food Vans exist.

Project Areas for Improvement

- A. Need to Test Field Procedures** - This project did not have the benefits of testing the field enumeration procedures due to cancellation of the Group Quarters Advance Visit field operation in the 2008 Census Dress Rehearsal. Feedback from the field Enumerators could have determined if there was a need to make any improvements in the geocoding procedures and any other procedures to capture the addresses/location descriptions.
- B. Follow-up Planning** – In order to reduce the non-response rate to the SBE and TNSOL solicitation mail-out and follow-up mail-out, the team found that a telephone follow-up process and obtaining FLD partnership assistance were helpful. The team did not originally plan these activities in the operation but recommends that these activities be planned for similar operations of this type. Follow-up should be considered because it helps facilitate collecting data from forms that were lost, delayed, or misdirected. We found that some of the highest elected officials of the governmental units that received the mail redirected the solicitations to other officials allowing us to obtain the contact information for the key respondent.
- C. Carnival Management Company Listings Needed** – The national service organization that maintained the listing of carnival, circus, and fair management companies address database was not operational by the middle of the decade. Alternative resources need to be investigated for locating and updating carnival management companies ‘address and contact information listings.
- D. Capture Carnival Location Descriptions Later** - The team captured a few carnival location descriptions for inclusion into the 2010 Census Enumeration Universe and learned that some companies do not know their site location schedules 12 months out (i.e., some schedules were likely to be set in January and February 2010). The ALUO team referred companies who set their schedules later to the FLD Decennial Data Collections Branch (DDCB), which oversees the 2010

Census Enumeration of Transitory Locations (ETL) field operation. This was necessary since the SBE updates to the enumeration universe was scheduled to end in January 2010.

- E.** Notification Letter for Carnival Management – The carnival management companies need to receive an advance letter informing the managers that the Census Bureau would be collecting information in preparation to schedule visits to their worksites during the 2010 Census ETL operation. Some of the carnival managers contacted refused to provide information on carnival locations for fear that data collectors were actually their competition trying to obtain business intelligence.
- F.** Timely Definitions of Group Homes and SBE Group Quarters – The ALUO project needs to obtain a timely final “Group Homes and SBE Group Quarters definitions document.” Since the address list development and collection begins two years before the decennial census enumeration, a final draft of the definitions needs to be completed at least two years before the actual field operation.
- G.** Refresh Mail-out Address Listings – The ALUO team found that the mail-out address listings were not the most current. The listing required updating a week before the mail-out in order to improve the mail deliverables and response rate. The team recommended possibly exploring additional data sources to update the Governmental Units and Advocacy Organizations contact/address information, i.e., investigate the possibility of using a preliminary telephone call to verify the name, address, correct point-of-contact, commitment, or use the Internet to verify the listing. Continue to use the operations initial mail returns to update the subsequent follow-up mail-out and to refresh the Census Bureau’s Geography Participants Program (GPP) mailing listing. The address corrections for the SBE respondents from the governmental units were not accepted as changes to the GPP because the changes were not related to the purpose of the GPP.
- H.** Puerto Rico Processing – Continue to monitor and track separately Puerto Rico’s special processing needs and unique specifications/procedures. An improvement would be to develop a Spanish version of the automated geocoding procedures for the Puerto Rico address records processing.
- I.** Partnership - The State Data Centers were helpful in getting responses from the GUs. It would have been helpful if they were involved in the process earlier. REAC members were helpful with contacting government officials. TNSOL locations were added by the REAC members themselves particularly members of the California Rural Legal Assistance (CRLA).
- J.** Mailing Envelopes and Forms - In the design of the mailing envelop, include “Attention: SBE” should be on the front of the envelope and the forms to ensure that the information from the respondents go directly to the staff at the NPC responsible for working this operation.
- K.** Spanish Translation – Allow at least two months lead time for products that need to be adapted and translated in Spanish.
- L.** Undeliverable As Addressed (UAA) Updates – Create a letter to update the UAAs return deadlines.
- M.** Lessons Learned Documentation – The ALUO team suggested that there should be a discussion at the end of each meeting to gather and document lessons learned.

Advice for Similar Projects

- A.** Schedule Bi-monthly Meetings - The ALUO team successfully used meeting agendas, one and one-half hour weekly or bi-monthly meetings, and detailed meeting notes with action items/deadlines to keep the project on schedule. Distribute the meeting notes quickly so those participants are reminded to complete any pending action items.
- B.** Rely on Subteams - Small subteams were most useful when issues arose that only involved a few specific divisions with a particular expertise and/or experience that were outside of the expertise of the team at large. It was more efficient to have a smaller group (three or four team members) resolve specific issues and report back to the team.
- C.** Identify Team Backups - Identify team members that do not have back-ups as a risk for the project. Several times team members were not available for several reasons, (i.e., changed offices, were promoted, etc.,) which put various team assignments or activities at risk. Have knowledgeable backup team members identified from each division. Make sure that subject matter experts from the various divisions attend meetings as needed.
- D.** Identify Office of Management and Budget (OMB) Clearance Issues Early – Schedule the forms/letter development at the start of the project in preparation for the OMB clearance. Receiving and scheduling OMB clearance was not a problem in 2010 since the ALUO team worked under the umbrella of the “Decennial Census Geography Administrative Records Update OMB Generic Clearance Package.”
- E.** Discuss Budget Issues - Cost and budget limitations should be discussed during the early stages of the projects development. All team members need to be aware that the budget is set before the project begins and any new/changed requirements may need additional funding.
- F.** Newly Defined SBE Locations – Be prepared to resolve issues concerning how to capture addresses/location descriptions for newly defined non typical SBE locations. For example, there were SBE locations identified as ‘floating’ which were sites sponsored jointly by advocacy groups in large metropolitan areas. These types of locations operated on a rotational basis weekly and/or monthly.
- G.** Census Bureau Website – Frequently Asked Questions (FAQ) - Create a Census Bureau Website to provide “Frequently Asked Questions” related to the SBE ALU Operation. This was based on the observations made by the staff at the NPC based on calls received for the following reasons:
 - Respondents went to the Census Bureau Website to look for additional forms.
 - Respondents needed to have information about how to respond if they had nothing to report.
 - Respondent needed information about how they could respond electronically.