

Nonresponse Followup for Census 2000

FINAL REPORT

This evaluation reports the results of research and analysis undertaken by the U.S. Census Bureau. It is part of a broad program, the Census 2000 Testing, Experimentation, and Evaluation (TXE) Program, designed to assess Census 2000 and to inform 2010 Census planning. Findings from the Census 2000 TXE Program reports are integrated into topic reports that provide context and background for broader interpretation of results.

Darlene A. Moul
Decennial Statistical
Studies Division

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

Helping You Make Informed Decisions

CONTENTS

EXECUTIVE SUMMARY	v
1. BACKGROUND	1
1.1 1990 Census	1
1.2 Census 2000 Dress Rehearsal	1
1.3 Census 2000	2
2. METHODOLOGY	5
2.1 Decennial Master Address File (DMAF)	5
2.2 Master Address File (MAF)	6
2.3 Decennial Response File - Stage 2 (DRF2)	7
2.4 Hundred Percent Census Edited File with the Reinstated Housing Units (HCEF_D') ...	7
2.5 Technologies Management Office (TMO) Decennial Data Warehouse	7
2.6 Applying Quality Assurance Procedures	8
3. LIMITATIONS	8
3.1 No Official Cut-Off Date for the Initial NRFU Universe	8
3.2 Interview Summary Data Analysis	8
3.3 Recount in Hialeah, FL	8
3.4 NRFU Operation Costs	8
4. RESULTS	8
4.1 What is the profile of the NRFU workload?	8
4.2 What are the demographics of the NRFU-enumerated and how do they compare with the Self-enumerated?	20
4.3 How was NRFU impacted by other operations?	26
4.4 How much did the NRFU operation cost?	30
5. CONCLUSIONS AND RECOMMENDATIONS	31
References	32
Appendix A: DMAF Variable Definitions	34
Appendix B: MAF Variable Definitions	37
Appendix C: DRF2 Variable Definitions	39
Appendix D: HCEF_D' Variable Definitions	42

Appendix E: Distribution of the Nonresponse Followup (NRFU) Universes by State	44
Appendix F: Classification of Nonresponse Followup (NRFU) Housing Units by State and by Form Type (Short versus Long)	47
Appendix G: Distribution of Nonresponse Followup (NRFU) Enumerator Questionnaires (EQs) Checked-in by Day and by Form Type	50
Appendix H: Summary Table of Nonresponse Followup (NRFU) Enumerator Questionnaire (EQ) Return Responses by State	55
Appendix I: Example of an Enumerator Questionnaire	58
Appendix J: Distribution of Nonresponse Followup (NRFU) Respondent Responses by State and by Form Type	62
Appendix K: Distribution of Nonresponse Followup (NRFU) Proxy Interviews by Day and by Form Type	66
Appendix L: Distribution of Nonresponse Followup (NRFU) Partial Interviews by Day and by Form Type	71
Appendix M: Distribution of Nonresponse Followup (NRFU) Refusals by Day and by Form Type	76
Appendix N: Distribution of Continuation Forms Used in Nonresponse Followup (NRFU) . .	81
Appendix O: Distribution of Added and Deleted Addresses in Nonresponse Followup (NRFU) by State	85
Appendix P: Distribution of Added and Deleted Addresses in Nonresponse Followup (NRFU) by Address Type for the Mailout/Mailback Area	87
Appendix Q: Distribution of Added and Deleted Addresses in Nonresponse Followup (NRFU) by Address Type for the Update/Leave Area	88
Appendix R: Distribution of Added and Deleted Addresses in Nonresponse Followup (NRFU) by Address Type for the Urban Update/Leave Area	89

LIST OF TABLES AND FIGURES

Table 1: NRFU Housing Unit Status by Form Type	10
Table 2: Distribution of NRFU EQs Checked-in by Week and by Form Type	11
Table 3: Summary of NRFU EQ Return Responses by Form Type	13
Table 4: Distribution of Respondent Type by Form Type	14
Table 5: Distribution of Respondent Type by Form Type for Occupied Housing Units	14
Table 6: Distribution of Respondent Type by Form Type for Vacant Housing Units	15
Table 7: Distribution of Respondent Type by Housing Unit Status for Partial Interviews	16
Table 8: Distribution of Proxy Interviews by Week and by Form Type	17
Table 9: Distribution of Partial Interviews by Week and by Form Type	18
Table 10: Distribution of Refusals by Week and by Form Type	19
Table 11: Distribution of Continuation Forms Used in NRFU	20
Table 12: Summary of NRFU-enumerated and Self-enumerated Housing Units and Persons	21
Table 13: Tenure of NRFU-enumerated and Self-enumerated Housing Units	22
Table 14: Unit Type for NRFU-enumerated and Self-enumerated Housing Units	22
Table 15: Sex Characteristic for NRFU-enumerated and Self-enumerated Households	23
Table 16: Age Distribution for NRFU-enumerated and Self-enumerated Households	23
Table 17: Distribution of Hispanic Origin for NRFU-enumerated and Self-enumerated Households	24
Table 18: Race Distribution for NRFU-enumerated and Self-enumerated Households	25
Table 19: Tenure of NRFU-enumerated and Self-enumerated Households	25
Table 20: Distribution of Added and Deleted Addresses in NRFU by TEA	27

Table 21: Distribution of Added and Deleted Addresses in NRFU by Unit Type	27
Table 22: Distribution of Added and Deleted Addresses in NRFU by Address Type	29
Table 23: Distribution of NRFU-enumerated IDs with Multiple Data Captures	30
Table 24: Summary of Field Operation Cost for NRFU (including POP 99s)	30
Figure 1: Cumulative Check-in of NRFU EQs	32

EXECUTIVE SUMMARY

The objective of Census 2000 Nonresponse Followup was to obtain completed questionnaires from households in the mailback areas that did not respond by mail, through the Internet or a Telephone Questionnaire Assistance operator. If a questionnaire was not checked-in before the universe selection process began, the housing unit was targeted for Nonresponse Followup. There were 119,090,016 housing units in mailback areas (including Puerto Rico) that were potentially eligible for followup. According to the Nonresponse Followup specifications, the initial workload of 44,928,883 housing units was identified on a flow basis and distributed to the local census offices. A Late Mail Return operation subsequently identified 2,555,918 housing units that were checked in after the initial universe was identified. A list of these IDs was sent to the local census offices where assignment preparation clerks manually removed them from the assignment workload by lining through the address in the registers. The resulting workload, which includes Puerto Rico, is 42,372,965 or 35.6 percent of the eligible universe. The Nonresponse Followup operation was scheduled to occur from April 27 through July 7, 2000. The actual start and finish dates are April 27, 2000 and June 26, 2000, respectively.

The aim of this operational summary is to develop a profile of the Nonresponse Followup units that will provide Census Managers with critical information needed for planning the 2010 Census. For this executive summary, the term “*workload*” refers to the housing units contacted in Nonresponse Followup and “*returns*” refers to the questionnaires completed during Nonresponse Followup; a Nonresponse Followup housing unit could have had more than one return completed for it. The key findings follow.

How successful was Nonresponse Followup?

Based on the following, Nonresponse Followup was a success.

- Nonresponse Followup officially ended early on June 26, 2000 - ten days ahead of schedule. Approximately 98.4 percent of the workload was checked-in by June 26; the remaining 1.6 percent of the workload was checked-in after June 26. These late check-ins are primarily Nonresponse Followup cases with unknown population counts (POP99s) or lost enumerator returns that were contacted in the Residual Nonresponse Followup operation.
- Less than 0.1 percent of the workload had an undetermined status at the end of Nonresponse Followup.
- Compared to the 5.0 percent target, there was a low final attempt rate - approximately 2.7 percent of the returns.

However, the Nonresponse Followup operation was not perfect. For example:

- For 5.4 percent of the returns, enumerators failed to indicate whether the interview was with a household member or a proxy.

- Of the 26.4 million occupied housing units, 117,730 (0.4 percent) had no population count in the Operations Control System 2000. Note that in the census overall, there were 193,753 housing units requiring imputation (U.S. Bureau of the Census, 2001e)
- Approximately 4.2 million housing units were enumerated multiple times - once in Nonresponse Followup and again in another data capture operation. Approximately 3.5 million of these were enumerated in Nonresponse Followup and by a paper mail return questionnaire.
- Some housing units had an unrealistically large number of continuation forms attached - as many as 99. These may have been group quarters misclassified as housing units.

What is the profile of the Nonresponse Followup workload?

- Of the 42.4 million housing units, 62.3 percent were occupied, 23.3 percent were vacant, and 14.3 percent were deleted.
- There were 38,636,451 Nonresponse Followup returns which represents 37,395,758 unique housing units. Approximately 79.6 percent of the occupied returns were completed by a household member; 16.5 percent of the occupied returns were completed by a proxy.
- There were 1,255,579 continuation forms used in Nonresponse Followup. Approximately 93.6 percent of the returns had one continuation form attached -- indicating there were six - ten people in the household. Approximately 2.9 percent of the returns had two continuation forms attached -- indicating there were 11 - 15 people in the household. Fewer than one percent of the 1,255,579 returns had three or more continuation forms attached. The number of forms attached ranged from one form to as many as 99 forms.

What are the demographics of those enumerated in Nonresponse Followup and how do they compare with the self-enumerated?

Approximately 29.9 percent of the enumerated population and 34.6 percent of the eligible housing units were contacted in Nonresponse Followup. Nonresponse Followup enumerated a higher percentage of multi-units and rented units than were self-enumerated. Nonresponse Followup also enumerated a higher percentage of males, young people, Hispanics, and people of all races except Whites.

How was Nonresponse Followup impacted by other operations?

There were 688,944 addresses added during Nonresponse Followup and 6,023,232 addresses deleted. The majority of the added and deleted addresses were single units in the mailout/mailback areas; the adds and deletes were mostly complete city-style addresses.

What was the field cost of the Nonresponse Followup operation?

The Nonresponse Followup field operation - stateside - cost \$1,123,563,961. This cost includes production salary cost, training salary cost, mileage cost (training and production miles), and other objects cost which includes civilian personnel benefits, telecommunications, and other costs; this cost does not include Headquarters and regional infrastructure costs.

The Nonresponse Followup workload - stateside - was 41,673,425 housing units. The cost per housing unit was \$26.96. Note that cost data for Puerto Rico was not available for this report.

Recommendations include:

- Monitor the followup workload in real-time to reduce...
 - the number of Nonresponse Followup cases with unknown population counts.
 - the number of lost Nonresponse Followup enumerator returns.

- Periodically identify and remove additional late mail returns from the Nonresponse Followup workload to reduce...
 - the Nonresponse Followup workload.
 - the number of housing units with multiple data captures.

- Implement a sufficient Quality Assurance program to ensure...
 - the accuracy of the Nonresponse Followup production files.
 - the proper use of enumeration techniques to prevent recounts like the one in Hialeah, Florida.

- Develop standards/benchmarks with which to measure/judge the results.

1. BACKGROUND

Nonresponse Followup (NRFU) is a field operation conducted to obtain census data from every housing unit and person in the mailback areas that did not return a completed questionnaire by mail nor submitted a questionnaire through the Internet or via the telephone through a Telephone Questionnaire Assistance (TQA) operator.

1.1 1990 Census

The enumeration of a majority of housing units in the 1990 Census took place using a mailback procedure. The United States Postal Service (USPS) and census enumerators delivered questionnaires to all housing units in the mailback universe. The residents of these housing units were to fill out the forms and return them to the appropriate processing office (PO) or district office (DO). Staff at the POs and DOs checked in the mail returns. If a household did not have a mail return checked in by the NRFU cutoff date of April 22, it was assigned to NRFU. A late mail return (LMR) operation identified the questionnaires received after the cutoff date and these housing units were deleted from the NRFU workload, as time permitted.

During NRFU, enumerators visited each nonresponse unit to determine the occupancy status of the unit on Census Day (April 1). Based on that status, enumerators completed the applicable items on the appropriate short or long form questionnaire.

As NRFU questionnaires were completed, they went through assignment control in the DOs. Type 1 DOs (large urban areas) shipped the questionnaires to the appropriate PO for an automated edit and telephone followup, if necessary. Type 2 and 3 DOs (smaller suburban and rural areas) clerically edited the questionnaires and conducted telephone followup at the DO. (U.S. Bureau of the Census, 1993)

1.2 Census 2000 Dress Rehearsal

In the South Carolina and Menominee, Wisconsin dress rehearsal sites, we conducted NRFU for all housing units in the mailout/mailback (MO/MB) and update/leave (U/L) universes for which we had not checked in a questionnaire by May 7, 1998. Check-in could refer to a mail response, the return of a Be Counted form, or data provided over the telephone to a TQA operator. Mailing pieces that the USPS was unable to deliver were returned with the reason for the undeliverability annotated on the mailing piece. We called these undeliverable mailing pieces “undeliverable as addressed” (UAA). The housing units for which a questionnaire was returned UAA were classified “vacant” or “other” based on the annotation. The housing units designated as UAA-other by the USPS became part of the NRFU universe.

A key component of the dress rehearsal was to test sampling procedures for housing units in the NRFU and UAA-vacant universes in the Sacramento site. Units in Sacramento designated as UAA-vacant formed their own universe with their own sampling scheme but were visited by enumerators during the NRFU operation. The NRFU sampling was implemented independently for each census tract; the nonresponse sampling rates were designed to raise each tract completion rate to at least 90.0 percent. Field staff enumerated only the sampled addresses;

estimation was used for non-sampled addresses. Housing units selected for the sample were identified on the Decennial Master Address File (DMAF). Sampling was not done for NRFU or UAA-vacant housing units in South Carolina, Menominee, or Integrated Coverage Measurement (ICM) block clusters in Sacramento.

As questionnaires were completed, they went through assignment control in the local census offices (LCOs). Once the questionnaires were accepted by assignment control, LCO staff checked the forms into the Operations Control System (OCS) 2000. The forms were then shipped to a data capture center (DCC) to be data captured. The edit and telephone followup done in 1990 was not done in the Census 2000 Dress Rehearsal. (U.S. Bureau of the Census, 1999a)

1.3 Census 2000

The objective of NRFU was to obtain completed questionnaires from households in the mailback areas that did not respond by mail. If a questionnaire was not checked-in when the universe selection process began, the housing unit was identified for NRFU. While there is no official cut date for the NRFU universe, the process began on April 11, 2000 and included a range of dates covering just over a week. Before the initial NRFU universe was identified, the DMAF was updated with all currently checked-in returns. The Decennial Systems and Contracts Management Office (DSCMO) identified the NRFU universe from the DMAF and a file was created for printing the address registers. The Technologies Management Office (TMO) distributed the census cases requiring followup to the LCOs. A subsequent LMR operation identified housing units that were checked in between April 11 and April 18, inclusively. A list of these IDs was sent to the LCOs where assignment preparation clerks manually removed them from the address registers. The NRFU operation was scheduled to occur from April 27 through July 7, 2000. According to the Assessment Report for NRFU, we finished NRFU 10 days ahead of schedule. The actual start and finish dates are April 27, 2000 and June 26, 2000, respectively.

1.3.1 NRFU Data Collection Procedures

During NRFU, enumerators visited each nonresponding unit to determine its occupancy status as of Census Day. The Census Day status of the unit indicated one of three possible conditions:

- The followup address was *occupied* on Census Day, either by the current household or a different household.
- The followup address was *vacant* on Census Day.
- The followup address was *nonexistent* on Census Day and should not be counted for purposes of the census.

Based on status, enumerators completed the applicable items on the appropriate NRFU Enumerator Questionnaire (EQ). Although we emphasized obtaining complete interviews, in some instances partial interviews were accepted. The NRFU Program Master Plan (PMP) defines a partial interview as “an interview in which an enumerator collects less than the minimum amount of information for a complete interview but at least Unit Status and Housing

Unit Population (POP) Count.” The following table shows the minimum information required for a complete interview.

If a unit is...	and the EQ form is...	then the minimum information required is...
Occupied	Short	- name of each person - 3 out of 5 100-percent population questions (age, sex, race, ethnicity, relationship) for each person - house tenure
	Long	- name of each person - 3 out of 5 100-percent population questions (age, sex, race, ethnicity, relationship) for each person - house tenure - any two additional housing questions - any six additional population questions for each person
Vacant - Regular	Short	- Question S4 ² - Interview Summary (Sections A, B, and C)*
	Long	- Question S4 ² - Interview Summary (Sections A, B, and C)* - at least two of the double-underlined questions
Vacant - Usual Home Elsewhere (UHE)	Short	- Question S3 ¹ - Interview Summary (Sections A, B, and C)*
	Long	- Question S3 ¹ - Interview Summary (Sections A, B, and C)* - at least two of the double-underlined questions

Data Source: Nonresponse Followup Program Master Plan

* Interview Summary Sections: A-HU Status, B-Population Count, C-Vacant Status

¹ Question S3: Is this unit a vacation or seasonal home, or only occasionally occupied by your household?

² Question S4: On April 1, 2000 was this unit - vacant or occupied by a different household?

After the required number of attempts, if an enumerator could not contact a household member at a followup address by either personal visit or by phone, the enumerator attempted to obtain Census Day status of the address from a knowledgeable non-household (proxy) respondent. Once a crew leader’s district reached a 95 percent completion rate, final attempt procedures were implemented. This operation was an intense effort to obtain a completed questionnaire for each unresolved case in a short period of time. During this phase of the operation, enumerators made one final visit to each address to obtain a complete interview or, at a minimum, the unit status and POP count.

Completed questionnaires went through assignment control in the LCOs. The assignment control clerks reviewed the questionnaires to ensure that critical items were completed. The critical items that were reviewed include:

- Questionnaire Label
- Enumerator’s signature and Crew Leader’s initials in the Certification item
- Introduction questions S2-S5, as appropriate

- Coverage questions C1 and C2, as appropriate
- Interview Summary items (A) unit status, (B) POP count and, if applicable, (G) Partial Interview, (H) Refusal and (J) Closeout

The wording and the associated skip patterns for the introduction questions S2 through S5 can be seen on the sample enumerator questionnaire in Appendix I; the coverage questions C1 and C2 verify that...

- the list of household members on the questionnaire includes all the household members who should be counted (C1).
- the household members listed on the questionnaire does not contain anyone who should not be counted (C2).

Questionnaires that failed the review and required resolution were returned to the enumerators through their Field Operations Supervisor. Questionnaires that passed the review were routed to the OCS 2000 for automated check-in. During the check-in operation, the OCS 2000 indicated whether the case had been selected for the Reinterview program -- the quality assurance (QA) check to verify the accuracy of questionnaire data. If a questionnaire was selected, it was routed to the Reinterview section of the LCO for data transcription. Upon completion of transcription, the original form was rerouted to the OCS 2000 for check-in. The new form was coded as a “replacement” in Item H of the Interview Summary section of the EQ (see Appendix I) and assigned to a reinterview clerk for further processing. For more information on the Reinterview Program, see U.S. Bureau of the Census, 1999b. All questionnaires were eventually assigned a check-out status and shipped to the appropriate DCC for data capture.

1.3.2 NRFU Operational Challenges

Although we finished NRFU ahead of schedule, we encountered some early operational challenges. Due to an incomplete review and inadequate QA of the software output, problems were discovered in the initial production files. These problems include:

- *The files were missing the addresses for responding households.* All responding and non-responding households should have been on the registers with nonresponding units flagged for contact. The DSCMO redelivered corrected files with addresses for responding households without causing any delay in the NRFU schedule.
- *The files contained no surnames for addresses in MO/MB areas and the U/L areas contained names from an incorrect field.* Surname information on the address registers could potentially help enumerators collect data from housing units in MO/MB areas where questionnaires had been mis-delivered in multi-unit structures. In the U/L areas, surname information could help enumerators collect data from housing units with clustered mailboxes. To remedy the situation, the DSCMO produced supplementary address listings that contained surnames; enumerators received additional training on how to most effectively use the surname address lists in the field.
- *The address registers started with the address of the first nonresponding housing unit on each block, thus omitting all responding housing units prior to the first nonresponding unit.*

The fix to the first problem only partially corrected the address listings. The NRFU enumerators may have been confused when adding housing units during this operation.

- *The update/leave areas were canvassed prior to Census Day (March of 2000) during the U/L operation. Although the U/L enumerators added HUs that were missing from the address register, these adds were not processed in time to update the NRFU registers. Consequently, enumerators may have added the missing units again during the NRFU operation and thus inflated the percentage of added addresses in the U/L area.*

As a result of the problems with the initial production files, a sufficient QA test was developed for the LMR files to ensure their accuracy.

Another challenging problem which led to the largest recount in the country was in Hialeah, Florida, LCO 2928. This LCO did not correctly follow the final attempt procedures and their corner-cutting led census officials to retrace information gathered from approximately 71,000 households. In the beginning, we reenumerated 20 percent of the city portion of the LCO and sampled the remaining 80 percent of the city (of Hialeah) to confirm the rosters turned in. Due to irregularities found in the sample reenumeration, we decided to reenumerate the entire LCO. An operational plan was developed to combine NRFU and Coverage Improvement Followup (CIFU) for this LCO since there was no time in the schedule to conduct separate operations. Therefore, the Hialeah NRFU workload was reworked in CIFU. As a result of additional mail return cuts, the NRFU workload that was reworked in CIFU was reduced to approximately 64,000 housing units.

2. METHODOLOGY

The data files used for this evaluation are:

- Decennial Master Address File (DMAF)
- March 2001 Master Address File (MAF) Extract
- Decennial Response File - Stage 2 (DRF2)
- Hundred percent Census Edited File with the reinstated housing units (HCEF_D')
- TMO Decennial Data Warehouse

2.1 Decennial Master Address File (DMAF)

The DMAF was used to identify the NRFU universe. The definitions of selected DMAF variables can be found in Appendix A.

2.1.1 Identifying the NRFU-eligible universe

The NRFU-eligible universe consists of residential addresses in the mailback areas regardless of their mail return status. The universe was identified by type of enumeration area (TEA) variable (values of 1, 2, 6, 7 or 9), the Nonresponse Followup Universe variable NRU (values of 1, 2, 3 or 4), and the group quarters/housing unit flag variable GQFLG (values of 0 or 3).

2.1.2 Identifying the initial NRFU universe

The NRFU universe selection process was implemented on a flow basis and thus there is no official cut date to identify the initial universe. Like the NRFU eligible universe, the initial NRFU universe was identified by TEA (values of 1, 2, 6, 7 or 9) and GQFLG (values of 0 or 3). This universe restricted the variable NRU to values of 3 or 4.

2.1.3 Identifying the Late Mail Return universe

The Late Mail Return universe is defined as any housing unit that was identified in the initial NRFU universe for which we received a return on or before April 18, 2000. Therefore the LMR universe is based on the same specifications as the initial NRFU universe (Section 2.1.2) with the additional constraint of the mail return check-in month and day (variable MAILD, values of '0101' through '0418', inclusive).

2.1.4 Identifying the NRFU universe

The NRFU universe was based on the same criteria as the initial NRFU universe (Section 2.1.2) with the exception of the mail return check-in month and day (MAILD). This universe excludes those housing units identified by the LMR universe (Section 2.1.3). Note that the NRFU universe includes those housing unit addresses with no mail return check-in (MAILD='0000'), those housing unit addresses with a reverse check-in (MAILD='0099') and those housing unit addresses with a check-in date of April 19 or later.

2.2 Master Address File (MAF)

The March 2001 MAF extract was used to identify the added addresses and to classify these by address type. The added addresses were identified by the NRFU action code variable NRFUAC (value of 'A'). The delivery specific address flag variable DLSPECAF='Y' was used to identify the added addresses that met the criteria to be on the DMAF. The housing unit flag variable GQ_HUF, values of 0 or 3, was used to identify housing units.

To classify the NRFU universe addresses by address type, the MAF was merged with the DMAF by MAFID. We classify addresses into five categories based on the highest criteria met. The categories are: complete city-style, complete rural route, complete P.O. box, incomplete address and no address information. The city-style category includes all units that had complete city-style addresses, which consists of a house number and street name. The Rural Route category includes units that did not have a complete city-style address but did have a complete rural route address, such as Rural Route 2, Box 3. The P.O. Box category includes units that did not have a complete city-style or rural route address but did have a complete P.O. Box address, such as P.O. Box 5. The incomplete category includes units that had some address information but did not have a complete address of any type. Addresses are further delineated by whether or not the address had a location description provided during a census field operation. For additional information on how this variable was defined, see U.S. Bureau of the Census, 2001a. The definitions of selected DMAF and MAF variables can be found in Appendix A and Appendix B, respectively.

2.3 Decennial Response File - Stage 2 (DRF2)

The DRF2 is the file representing the capture of questionnaire data from Census 2000 and was used as the source for NRFU enumerator questionnaire responses. The DRF2 return level records for housing units, record types (variable RRT) 2 and 3, were used to identify the universe of NRFU responses. Also used to identify the universe was the return form type variable RFT (values of 5, 6, 17 or 18) and the source of the return variable RSOURCE (values of 17, 18, 19, 20 or 21). The DRF2 was merged with the DMAF file to examine the distribution of NRFU responses over time; the variable NRD (NRFU Check-in Date) on the DMAF was used to look at these distributions. The files were linked by variable MAFID on the DMAF and variable RUID on the DRF2. The definitions of selected DMAF and DRF2 variables can be found in Appendix A and Appendix C, respectively.

2.4 Hundred Percent Census Edited File with the Reinstated Housing Units (HCEF_D')

The HCEF_D' contains the edited and imputed 100 percent data from the census housing units, group quarters and persons; it was the source for the demographics for the NRFU and self-enumerated housing units and households. Appendix D contains a list of selected HCEF_D' variable definitions.

2.4.1 Identifying the NRFU Housing Unit universe

The housing unit record (variable RT=2) was used to obtain housing unit (HU) characteristics of tenure and unit type for the NRFU-enumerated and the self-enumerated housing units. The NRFU data were extracted using the Nonresponse Followup Universe (NRU) variable. NRU values of 3 or 4 were used to identify those units enumerated in NRFU and values of 1 or 2 were used to identify the self-enumerated units.

2.4.2 Identifying the NRFU Person universe

The person records (variable RT=3) were used to obtain the person characteristics of sex, age, Hispanic origin and race. The person records did not contain a variable to identify whether they were enumerated in NRFU or self-enumerated. Thus, the HU file and person file were merged by the MAFID variable on the HU file and the PUID variable on the person file. The merged file contained the housing unit variable NRU which was used to distinguish the NRFU-enumerated and the self-enumerated; values of 3 or 4 were used to identify those that were enumerated in NRFU and values of 1 or 2 were used to identify the self-enumerated.

2.5 Technologies Management Office (TMO) Decennial Data Warehouse

The TMO data warehouse is a repository for data from the OCS 2000 and the Pre-Appointment Management System/Automated Decennial Administrative Management System (PAMS/ADAMS). This query system was used to obtain the NRFU start and finish dates for the local census offices. The NRFU “start” date is defined as the day the first NRFU EQ was checked into the OCS 2000. The NRFU “finish” date is defined as the day the last NRFU EQ

was checked into the OCS 2000. This information was retrieved from the data warehouse by the attributes “First Check-in Date” and “Last Check-in Date”.

2.6 Applying Quality Assurance Procedures

Quality Assurance procedures were applied to the design, implementation, analysis and preparation of this report. A description of the procedures used is provided in the “Census 2000 Evaluation Program Quality Assurance Process.”

3. LIMITATIONS

3.1 No Official Cut-Off Day for the Initial NRFU Universe

There was no official cut date for the NRFU universe; there was, however, a range of dates covering just over a week during which the DSCMO ran the NRFU selection process on a state/LCO basis. Prior to starting a state through the selection process, the DSCMO ran a DMAF update based on all currently available checked-in returns. Thus, any states actually ran on the 11th of April would include all checked-in returns up to and including the 10th of April. Similarly, any states that were ran on the 12th of April would include all checked-in returns up to and including the 11th of April, and so on. Therefore, since the NRFU universe was generated on a flow basis, the users of these data should keep in mind that there will be noise in the data with respect to the initial universe and the LMR universe.

3.2 Interview Summary Data Analysis

Analysis that relies on interview summary data is limited due to enumerator errors in completing these items.

3.3 Recount in Hialeah, FL

As a result of the enumeration problems in Hialeah, FL (LCO 2928) that were mentioned in the background, Hialeah data were removed from all tabulations.

3.4 NRFU Operation Costs

Cost data does not include Headquarters (HQ) and regional/LCO infrastructure costs.

4. RESULTS

4.1 What is the profile of the NRFU workload?

Based on the DMAF, there were 119,090,016 housing units in the mailback areas (including Puerto Rico) that were potentially eligible for followup. According to the NRFU specifications, the initial universe workload of 44,928,883 housing units was identified on a flow basis and

distributed to the LCOs. A LMR operation subsequently identified 2,555,918 housing unit IDs that were checked in after the initial universe was identified; 2,553,528 of the IDs were checked in between April 11 and April 18 -- the official dates for the LMR operation. The remaining 2,390 housing unit IDs had check-in dates prior to April 11 but were included in this LMR universe since there was no official cut-date which defined the initial NRFU universe. A list of these IDs was sent to the LCOs where clerks manually removed them from the assignment workload by lining through the address in the registers. The resulting NRFU universe, which includes Puerto Rico, consisted of 42,372,965 housing units or 35.6 percent of the eligible universe. This information is provided for each state and Puerto Rico in Appendix E. Note that one should not try to calculate a mail response rate from these data since the NRFU eligible universe is not directly comparable to the universe for determining the mail response rate. For more information on the mail response rate, see U.S. Bureau of the Census, 2002.

A housing unit was classified as either occupied, vacant, delete or undetermined in NRFU. The classifications are defined as follows:

- *Occupied* means someone lived at the followup housing unit on Census Day.
- *Vacant* means the followup housing unit was for rent, for sale, or sold but not occupied, or for seasonal, recreational, or occasional use.
- *Delete* means the followup unit was demolished/burned out, cannot locate, duplicate, nonresidential, or other (open to the elements, condemned, under construction) on Census Day.
- *Undetermined* means there was no status received for the followup unit.

Table 1 shows the NRFU status of the housing units by form type (short versus long); this information is presented by state in Appendix F. Approximately 78.0 percent of the 42.4 million forms were short and 22.0 percent were long. In the original distribution, the sampling rate for long forms was one in six or 16.7 percent. Since long forms typically have a lower response rate, we are not surprised that NRFU enumerated a higher percentage of long forms. In Table 1, we see that the majority (62.3 percent) of the enumerated units were occupied and that long forms had a higher occupancy rate than short forms; of the 26.4 million occupied units, 117,730 (0.4 percent) did not have a population count. Approximately 14.3 percent of the universe was targeted for deletion; less than one-tenth of a percent of the units were classified as undetermined at the end of NRFU.

Table 1: NRFU Housing Unit Status by Form Type

NRFU Status	Form Type					
	Total Forms		Short Forms		Long Forms	
	#	%	#	%	#	%
Total	42,372,965	100.0	33,056,635	100.0	9,316,330	100.0
▶ Occupied	26,418,357	62.3	20,397,349	61.7	6,021,008	64.6
▶ Vacant	9,893,046	23.3	7,799,783	23.6	2,093,263	22.5
▶ Delete	6,054,399	14.3	4,853,394	14.7	1,201,005	12.9
▶ Undetermined	7,163	0.0	6,109	0.0	1,054	0.0

Data Source: DMAF

An entry with 0.0 percent indicates the value is less than one-tenth of a percent

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

The official NRFU start and finish dates are April 27, 2000 and June 26, 2000, respectively. According to the OCS 2000, the LCOs started the NRFU operation as early as April 21 and finished as late as September 7. The NRFU start date for the LCOs is defined as the day the first NRFU EQ was checked into the OCS 2000; the NRFU finish date for the LCOs is defined as the day the last NRFU EQ was checked into the OCS 2000. According to the OCS 2000, at the LCO level the NRFU start dates ranged from April 21 through May 5, and the NRFU finish dates ranged from May 5 through September 7. According to the DMAF, nothing was checked-in after August 25, thus there is a discrepancy between the two data sources. Based on the OCS 2000 data, the duration of the NRFU operation ranged from one day to 127 days.

Table 2 shows when the NRFU EQs were checked-in by week and by form type (short versus long). This universe was restricted to valid values, therefore 7,149 EQs with invalid check-in dates were excluded from the table; there were 42,365,816 EQs with valid dates checked in between April 21 and August 25. More than 98 percent of the EQs were checked-in between weeks one and ten, which encompasses the official NRFU start and finish dates. Approximately 1.6 percent of the NRFU workload was checked in after the end of the NRFU operation (June 26, 2000). These are primarily NRFU cases with unknown population counts (POP99s) or lost NRFU enumerator returns that were contacted in the Residual Nonresponse Followup operation. See Appendix G for the distribution of the NRFU EQs checked-in by day and by form type.

Table 2: Distribution of NRFU EQs Checked-in by Week and by Form Type

Week ¹	Date	Form Type					
		Total Forms		Short Forms		Long Forms	
		#	%	#	%	#	%
	Total	42,365,816	100.0	33,050,538	100.0	9,315,278	100.0
1	Apr 21 - Apr 29	119,685	0.3	104,218	0.3	15,467	0.2
2	Apr 30 - May 06	5,132,662	12.1	4,228,079	12.8	904,583	9.7
3	May 07-May 13	8,924,593	21.1	7,131,363	21.6	1,793,230	19.3
4	May 14 - May 20	8,927,344	21.1	7,046,837	21.3	1,880,507	20.2
5	May 21 - May 27	8,054,555	19	6,264,203	19	1,790,352	19.2
6	May 28 - Jun 03	5,196,605	12.3	3,941,718	11.9	1,254,887	13.5
7	Jun 04 - Jun 10	3,586,604	8.5	2,616,687	7.9	969,917	10.4
8	Jun 11 - Jun 17	1,442,652	3.4	1,020,808	3.1	421,844	4.5
9	Jun 18 - Jun 24	261,289	0.6	183,151	0.6	78,138	0.8
10	Jun 25 - Jul 01	11,958	0	9,057	0	2,901	0
11	Jul 02 - Jul 08	2,061	0	1,693	0	368	0
12	Jul 09 - Jul 15	1,375	0	1,077	0	298	0
13	Jul 16 - Jul 22	58,512	0.1	41,421	0.1	17,091	0.2
14	Jul 23 - Jul 29	426,098	1	300,118	0.9	125,980	1.4
15	Jul 30 - Aug 05	155,946	0.4	112,051	0.3	43,895	0.5
16	Aug 06 - Aug 12	38,922	0.1	28,733	0.1	10,189	0.1
17	Aug 13 - Aug 19	20,008	0.0	15,547	0.0	4,461	0.0
18	Aug 20 - Aug 25	4,947	0.0	3,777	0.0	1,170	0.0

Data Source: DMAF

An entry with 0.0 percent indicates the value represents less than one-tenth of a percent

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

¹ Weeks 2 through 18 are seven day weeks - Sunday through Saturday. To be consistent with the other weeks, Week 1 should have started April 23. Since there were only 37 EQs checked in on April 21 and no EQs checked in on April 22, these days were included with Week 1.

The DRF2 was used to obtain the NRFU return responses from the “Respondent Information” and “Interview Summary” on the EQ. An example of these sections of the EQ are shown in Appendix I. This file consists of 38,636,451 NRFU returns which represent 37,395,758 unique housing units. Note that there were 42.4 million housing units requiring contact in NRFU and 37.4 million unique housing units on the DRF2 with a NRFU return. The difference in these numbers is the result of the DRF2 creation process which linked forms and implemented the Primary Selection Algorithm. Of these 37.4 million housing units, approximately 96.8 percent

provided only one return for the unit; the remaining 1,193,624 provided multiple returns - ranging from two returns to 92 returns. For this evaluation, the DRF2 universe is based on the number of NRFU returns.

Table 3 is a summary of the NRFU return responses; these data are provided by state in Appendix H. The table contains the number of NRFU EQs for the categories listed below. The table also shows the number of these returns by form type as a proportion of the total number of NRFU returns for that category. Note that the table is not totaled since the categories are not mutually exclusive. For example, a response could be a partial interview completed in Spanish, or a proxy interview that was obtained during final attempt procedures. The categories and their location on the EQ are:

- Proxy - Question R3, Respondent Information
- Spanish - Item D, Interview Summary
- Partial Interviews - Item G, Interview Summary
- Refusals - Item H, Interview Summary
- Replacement - Item I, Interview Summary
- Final Attempt - Item J, Interview Summary

Of the 38.6 million returns, more than 14 million (37.5 percent) were proxy interviews and approximately two million (5.3 percent) were partial interviews. While the final attempt target was 5.0 percent, only 2.7 percent of the returns were completed using final attempt procedures. Approximately 2.0 percent of the total returns were refusals, 1.8 percent were marked as replacement as a result of the QA interview, and 1.2 percent were completed in Spanish. While the long forms are 22.4 percent of the total returns, the long form rates for the return responses range from 21.2 percent to 48.4 percent. The long form rates for Final Attempts, Partial Interviews, Refusals and Replacement forms are higher than the 22.4 percent overall long form rate; this indicates poorer quality for these long forms compared to short forms. Note that long form rates for Proxy and Spanish interviews are lower than the 22.4 percent overall long form rate.

Table 3: Summary of NRFU EQ Return Responses by Form Type

Return Responses	Form Type					
	Total Forms		Short Forms		Long Forms	
	#	%	#	%	#	%
Total Returns	38,636,451	100.0	29,987,599	77.6	8,648,852	22.4
▶ Proxy Interviews	14,474,361	100.0	11,401,120	78.8	3,073,241	21.2
▶ Final Attempt	1,042,715	100.0	703,605	67.5	339,110	32.5
▶ Partial Interviews	2,061,930	100.0	1,064,696	51.6	997,234	48.4
▶ Refusals	771,002	100.0	433,448	56.2	337,554	43.8
▶ Spanish	470,184	100.0	366,399	77.9	103,785	22.1
▶ Replacement	705,936	100.0	507,570	71.9	198,366	28.1

Data Source: DRF2

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

Tables 4, 5 and 6 contain a distribution of the respondent responses to question R3 in the “Respondent Information” section of the EQ (see Appendix I). The possible responses are:

“Respondent --

- *Lived here on April 1, 2000*
- *Moved in after April 1, 2000*
- *Is neighbor or other”*

A respondent that “*lived here on April 1*” is considered a household (HH) member. A respondent that “*moved in after April 1*” is classified as an in-mover. Finally, a respondent that “*is neighbor or other*” is shown as neighbor/other in the following three tables. The in-mover and neighbor/other categories combined are considered “Proxy” respondents. We see in Table 4 that 57.1 percent of the respondents were household members and that long forms had a higher percentage of household member respondents than short forms. Of the 38,636,451 NRFU returns, 37.5 percent of the EQs were completed via a proxy respondent. For both long and short forms, the majority of the proxy respondents were neighbors or other non-household members; approximately 5.8 percent of the proxies were in-movers. About 31.1 percent - or almost 4.5 million - of the proxy interviews were for occupied housing units (see Table 5). Approximately 63.8 percent - more than 9 million - of the 14.5 million proxies were for vacant units (see Table 6). Approximately 5.4 percent of the returns had no response to this question. To see the distribution of respondent type by state, turn to Appendix J.

Table 4: Distribution of Respondent Type by Form Type

Respondent Type	Form Type					
	Total Forms		Short Forms		Long Forms	
	#	%	#	%	#	%
Total	38,636,451	100.0	29,987,599	100.0	8,648,852	100.0
HH member	22,078,073	57.1	17,045,202	56.8	5,032,871	58.2
Proxy	14,474,361	37.5	11,401,120	38.0	3,073,241	35.5
▶ In-mover	837,728	2.2	666,760	2.2	170,968	2.0
▶ Neighbor/Other	13,636,633	35.3	10,734,360	35.8	2,902,273	33.6
No Response	2,084,017	5.4	1,541,277	5.1	542,740	6.3

Data Source: DRF2

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

Table 5: Distribution of Respondent Type by Form Type for Occupied Housing Units

Respondent Type	Form Type					
	Total Forms		Short Forms		Long Forms	
	#	%	#	%	#	%
Total	27,308,487	100.0	21,079,787	100.0	6,228,700	100.0
HH Member	21,734,762	79.6	16,779,766	79.6	4,954,996	79.6
Proxy	4,496,415	16.5	3,549,084	16.8	947,331	15.2
▶ In-mover	121,794	0.4	99,079	0.5	22,715	0.4
▶ Neighbor/Other	4,374,621	16.0	3,450,005	16.4	924,616	14.8
No Response	1,077,310	3.9	750,937	3.6	326,373	5.2

Data Source: DRF2

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

Table 6: Distribution of Respondent Type by Form Type for Vacant Housing Units

Respondent Type	Form Type					
	Total Forms		Short Forms		Long Forms	
	#	%	#	%	#	%
Total	10,052,041	100.0	7,933,022	100.0	2,119,019	100.0
HH Member	207,537	2.1	166,879	2.1	40,658	1.9
Proxy	9,235,202	91.9	7,280,642	91.8	1,954,560	92.2
▶ In-mover	709,707	7.1	562,938	7.1	146,769	6.9
▶ Neighbor/Other	8,525,495	84.8	6,717,704	84.7	1,807,791	85.3
No Response	609,302	6.1	485,501	6.1	123,801	5.8

Data Source: DRF2

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

To compare the completeness of the proxy interviews with the non-proxy interviews, we looked at the proportion of each that were partial interviews. Table 7 provides counts of respondent types (Proxy, HH member, No Response) by housing unit status (Occupied, Vacant, Delete, Undetermined) for the partial interviews. Of the 14.5 million proxy respondents, 7.6 percent were partial interviews; of the 22.1 million household member respondents, 4.0 percent were partial interviews. Thus there is a disproportionate number of partial interviews for the proxy respondents compared to the household member respondents.

For housing unit status, we see that the majority of the partial interviews for proxies and household members are occupied housing units; the occupancy rate for proxies is ten percentage points lower than the household member rate. Of the 1.1 million partial interviews obtained by a proxy respondent, 10.1 percent are for vacant units compared to 0.4 percent of household member partial interviews that are for vacant units.

Also in Table 7, we see that the ‘no response’ distribution is similar to the proxy distribution with the exception of the deletes. The higher percentage of the ‘no response’ deletes appears to be a function of the smaller universe. For a more thorough look at item response completeness, see U.S. Bureau of the Census, 2001f.

Table 7: Distribution of Respondent Type by Housing Unit Status for Partial Interviews

Housing Unit Status	Total	Respondent Type		
		Proxy	HH Member	No Response
Total Partial Interviews	2,061,930 (100.0 %)	1,105,365 (100.0 %)	873,257 (100.0%)	83,308 (100.0%)
▶ Occupied	1,927,647 (93.5 %)	986,908 (89.3 %)	866,806 (99.3 %)	73,933 (88.7 %)
▶ Vacant	123,043 (6.0 %)	111,537 (10.1 %)	3,621 (0.4 %)	7,885 (9.5 %)
▶ Delete	11,172 (0.5 %)	6,902 (0.6 %)	2,811 (0.3 %)	1,459 (1.8 %)
▶ Undetermined	68 (0.0 %)	18 (0.0 %)	19 (0.0 %)	31 (0.0 %)
Total Returns for Respondent Type*	38,636,451	14,474,361	22,078,073	2,084,017

Data Source: DRF2

An entry with 0.0 percent indicates the value is less than one-tenth of a percent

Table includes the data for Puerto Rico and excludes the data for Hialeah, FL (LCO 2928)

* From Table 4

The distribution of proxy interviews by week and by form type can be seen in Table 8. There were 335 returns with invalid check-in dates that were excluded from the table; thus 14,474,026 returns with valid dates were checked in between April 21 and August 25. Approximately 78.8 percent of the proxy interviews were short forms. Between the first and tenth week, which encompasses the official start and finish of NRFU, more than 96 percent of all proxy forms were checked in. Short forms were checked in at a slightly faster rate than long forms. The distribution of the proxy interviews by day and by form type can be seen in Appendix K.

Table 8: Distribution of Proxy Interviews by Week and by Form Type

Week ¹	Date	Form Type					
		Total Forms		Short Forms		Long Forms	
		#	%	#	%	#	%
	Total	14,474,026	100.0	11,400,854	100.0	3,073,172	100.0
1	Apr 21 - Apr 29	24,984	0.2	21,722	0.2	3,262	0.1
2	Apr 30 - May 06	1,421,739	9.8	1,169,217	10.3	252,522	8.2
3	May 07 - May 13	2,779,421	19.2	2,237,863	19.6	541,558	17.6
4	May 14 - May 20	2,919,738	20.2	2,328,632	20.4	591,106	19.2
5	May 21 - May 27	2,717,486	18.8	2,147,222	18.8	570,264	18.6
6	May 28 - Jun 03	1,844,110	12.7	1,433,155	12.6	410,955	13.4
7	Jun 04 - Jun 10	1,436,931	9.9	1,084,879	9.5	352,052	11.5
8	Jun 11 - Jun 17	671,148	4.6	494,179	4.3	176,969	5.8
9	Jun 18 - Jun 24	137,920	1.0	100,642	0.9	37,278	1.2
10	Jun 25 - Jul 01	8,330	0.1	6,411	0.1	1,919	0.1
11	Jul 02 - Jul 08	1,403	0.0	1,158	0.0	245	0.0
12	Jul 09 - Jul 15	1,063	0.0	801	0.0	262	0.0
13	Jul 16 - Jul 22	32,778	0.2	23,936	0.2	8,842	0.3
14	Jul 23 - Jul 29	319,822	2.2	233,851	2.1	85,971	2.8
15	Jul 30 - Aug 05	114,151	0.8	84,241	0.7	29,910	1.0
16	Aug 06 - Aug 12	25,278	0.2	19,014	0.2	6,264	0.2
17	Aug 13 - Aug 19	14,104	0.1	11,095	0.1	3,009	0.1
18	Aug 20 - Aug 25	3,620	0.0	2,836	0.0	784	0.0

Data Source: DRF2

An entry with 0.0 percent indicates the value is less than one-tenth of a percent

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

¹ Weeks 2 through 18 are seven day weeks - Sunday through Saturday. To be consistent with the other weeks, Week 1 should have started April 23. Since there were only 37 EQs checked in on April 21 and no EQs checked in on April 22, these days were included with Week 1.

There were 68 partial interviews with invalid check-in dates that were excluded from Table 9; thus Table 9 shows there were 2,061,862 partial interviews that were checked-in between April 21 and August 25. Approximately 51.6 percent of the partial interviews were short form interviews and 48.4 percent were long form interviews. Compared to the long form distribution rate of 22.4 percent shown in Table 3, there is a disproportionate number of partial interviews for long forms; this indicates poorer quality for long forms. Between weeks one and ten,

approximately 91.7 percent of the forms were checked in, with long forms coming in at a faster rate than short forms. The distribution of partial interviews by day and by form type can be seen in Appendix L.

Table 9: Distribution of Partial Interviews by Week and by Form Type

Week ¹	Date	Total Forms		Form Type			
		#	%	Short Forms		Long Forms	
		#	%	#	%	#	%
	Total	2,061,862	100.0	1,064,684	100.0	997,178	100.0
1	Apr 21 - Apr 29	1,043	0.1	684	0.1	359	0.0
2	Apr 30 - May 06	71,968	3.5	39,429	3.7	32,539	3.3
3	May 07 - May 13	214,755	10.4	112,412	10.6	102,343	10.3
4	May 14 - May 20	295,453	14.3	152,537	14.3	142,916	14.3
5	May 21 - May 27	346,838	16.8	177,042	16.6	169,796	17.0
6	May 28 - Jun 03	322,602	15.6	161,799	15.2	160,803	16.1
7	Jun 04 - Jun 10	366,835	17.8	182,717	17.2	184,118	18.5
8	Jun 11 - Jun 17	218,041	10.6	110,605	10.4	107,436	10.8
9	Jun 18 - Jun 24	52,120	2.5	27,837	2.6	24,283	2.4
10	Jun 25 - Jul 01	1,941	0.1	1,103	0.1	838	0.1
11	Jul 02 - Jul 08	309	0.0	173	0.0	136	0.0
12	Jul 09 - Jul 15	200	0.0	136	0.0	64	0.0
13	Jul 16 - Jul 22	8,482	0.4	4,051	0.4	4,431	0.4
14	Jul 23 - Jul 29	109,608	5.3	63,189	5.9	46,419	4.7
15	Jul 30 - Aug 05	37,164	1.8	21,823	2.0	15,341	1.5
16	Aug 06 - Aug 12	8,306	0.4	5,031	0.5	3,275	0.3
17	Aug 13 - Aug 19	4,838	0.2	3,359	0.3	1,479	0.1
18	Aug 20 - Aug 25	1,359	0.1	757	0.1	602	0.1

Data Source: DRF2

An entry with 0.0 percent indicates the value is less than one-tenth of a percent

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

¹ Weeks 2 through 18 are seven day weeks - Sunday through Saturday. To be consistent with the other weeks, Week 1 should have started April 23. Since there were only 37 EQs checked in on April 21 and no EQs checked in on April 22, these days were included with Week 1.

Table 10 shows the distribution of the 770,999 refusals with valid dates by week and by form type; there were three refusals which had an invalid check-in date. Approximately 56.2 percent of the refusals were short form EQs; 43.8 percent were long form EQs which is substantially

higher than the 22.4 percent long form distribution rate shown in Table 3. This disparity indicates poorer long form quality. Between April 27 (week one) and June 26 (week ten), 76.1 percent of the long form refusals were checked-in compared to 62.6 percent of the short form refusals that were checked-in during this time. The distribution of refusals by day and by form type can be seen in Appendix M.

Table10: Distribution of Refusals by Week and by Form Type

Week ¹	Date	Total Forms		Form Type			
		#	%	Short Forms		Long Forms	
		#	%	#	%	#	%
	Total	770,999	100.0	433,445	100.0	337,554	100.0
1	Apr 21 - Apr 29	156	0.0	107	0.0	49	0.0
2	Apr 30 - May 06	16,077	2.1	9,074	2.1	7,003	2.1
3	May 07 - May 13	55,510	7.2	29,019	6.7	26,491	7.8
4	May 14 - May 20	80,110	10.4	40,213	9.3	39,897	11.8
5	May 21 - May 27	97,589	12.7	48,268	11.1	49,321	14.6
6	May 28 - Jun 03	94,115	12.2	46,818	10.8	47,297	14.0
7	Jun 04 - Jun 10	113,738	14.8	59,104	13.6	54,634	16.2
8	Jun 11 - Jun 17	56,882	7.4	30,611	7.1	26,271	7.8
9	Jun 18 - Jun 24	13,780	1.8	8,000	1.8	5,780	1.7
10	Jun 25 - Jul 01	659	0.1	414	0.1	245	0.1
11	Jul 02 - Jul 08	67	0.0	44	0.0	23	0.0
12	Jul 09 - Jul 15	393	0.1	289	0.1	104	0.0
13	Jul 16 - Jul 22	3,834	0.5	2,285	0.5	1,549	0.5
14	Jul 23 - Jul 29	163,932	21.3	108,047	24.9	55,885	16.6
15	Jul 30 - Aug 05	51,764	6.7	35,083	8.1	16,681	4.9
16	Aug 06 - Aug 12	13,798	1.8	9,699	2.2	4,099	1.2
17	Aug 13 - Aug 19	7,461	1.0	5,645	1.3	1,816	0.5
18	Aug 20 - Aug 25	1,134	0.1	725	0.2	409	0.1

Data Source: DRF2

An entry with 0.0 percent indicates the value is less than one-tenth of a percent

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

¹ Weeks 2 through 18 are seven day weeks - Sunday through Saturday. To be consistent with the other weeks, Week 1 should have started April 23. Since there were only 37 EQs checked in on April 21 and no EQs checked in on April 22, these days were included with Week 1.

Continuation forms were used when there were more than five persons in the household; Table 11 shows how often the continuation forms were used during NRFU. If a continuation form was used, the enumerator checked the “Continuation form(s) attached” box in the upper left-hand corner of the EQ (An example of an EQ is in Appendix I). For those who checked this box, we examined how many continuation forms for the address were attached. In Table 11, we see that there were 1,255,579 continuation forms used in NRFU, which is 3.2 percent of the 38,636,451 NRFU returns. For these cases, the number of continuation forms attached ranged from one form to 99 forms. Almost 93.6 percent of these had one continuation form attached, indicating there were 6 to 10 people in the household. Approximately 2.9 percent had two continuation forms attached, indicating there were 11 to 15 people in the household. Fewer than one percent of the housing units had three or more continuation forms attached. Approximately 2.7 percent of the continuation forms had an invalid response in the “number of continuation forms for this address” box. See Appendix N for the distribution of continuation forms by state.

Table 11: Distribution of Continuation Forms Used in NRFU

	Number	Percent
Total	1,255,579	100.0
1 form	1,175,621	93.6
2 forms	36,920	2.9
3 forms	2,713	0.2
4 forms	652	0.1
5 forms	153	0.0
6 - 10 forms	2,972	0.2
11 or more forms	2,838	0.2
Invalid Responses	33,710	2.7

Data Source: DRF2

An entry with 0.0 percent indicates the value is less than one-tenth of a percent

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

4.2 What are the demographics of the NRFU-enumerated and how do they compare with the self-enumerated?

The HCEF_D’ was the source for demographic comparisons between the NRFU-enumerated and the self-enumerated households. NRFU-enumerated households are defined as the nonresponding housing units that required contact in NRFU; self-enumerated households are defined as the responding housing units that did not require contact in NRFU but were on the address listing pages. From the HCEF_D’, there were 113,650,310 housing units in the NRFU-eligible universe; there were 269,857,783 people in the 113.7 million housing units. Approximately 29.9 percent of the people and 34.6 percent of the eligible housing units were enumerated in NRFU. In section 4.1, we see that the DMAF NRFU-eligible universe had

119,090,016 housing units while the HCEF_D' NRFU-eligible universe has 113,650,310 housing units. The difference in the two universes is a result of the Hundred percent Census Unedited File (HCUF) building process which includes the DRF2 creation, the Primary Selection Algorithm, the “kill” processing, the housing unit determination processing, unclassified estimation and the housing unit unduplication operation. Thus there were approximately 5.4 million housing units that did not meet the criteria to be in the Census (i.e., on the HCUF and the HCEF_D'). Consequently, the HCEF_D' NRFU universe (39,273,344) shown in Table 12 contains almost 3.1 million fewer housing units on the original address list than the DMAF NRFU universe (42,372,965) seen in Table 1. Note that there may be some portion of the self-enumerated HUs that were enumerated during CIFU. These cases were either lost or blank mail return forms which were identified after the NRFU universe was determined. Analysis on these cases will be done as part of the Coverage Improvement Followup evaluation I.4.

Table 12: Summary of NRFU-enumerated and Self-enumerated Housing Units and Persons

Number of...	Enumeration Method					
	Total Enumerated		NRFU		Self	
	#	%	#	%	#	%
▶ Housing Units	113,650,310	100.0	39,273,344	34.6	74,376,966	65.4
▶ Persons	269,857,783	100.0	80,735,128	29.9	189,122,655	70.1

Data Source: HCEF_D'

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

The next few tables highlight the distribution of the housing unit characteristics and person demographics for those that were enumerated in NRFU and those that were self-enumerated. Tables 13 and 14 compare the tenure (owned versus rented) and unit type (single unit versus multi-unit) of the housing units, respectively. Tables 15 - 19 compare the demographics of the households. These tables show the distribution of sex, age, Hispanic origin, race, and tenure of the NRFU-enumerated and self-enumerated persons.

The tenure of the 113.7 million housing units in Table 12 is obtained through the responses to the housing question: “*Is this house/apartment/mobile home...*”

- *Owned by you or someone in this household with a mortgage,*
- *Owned by you or someone in this household free and clear,*
- *Rented for cash rent, or*
- *Occupied without payment of cash rent?”*

These four options were collapsed into two categories - the first two became “*owned*” and the last two became “*rented.*” Table 13 also contains the category “*vacant*” since the data source for this information (HCEF_D') included “*not in universe (vacant)*” as an optional response. We see in Table 13 that the units enumerated in NRFU were more evenly distributed between owned and rented than the self-enumerated units. Approximately 37.4 percent of the NRFU-enumerated

units were rented units while 27.5 percent of the self-enumerated units - almost 10.0 percentage points less - were rented units. Conversely, the majority of the self-enumerated units (71.8 percent) were owned while 39.2 percent of the NRFU-enumerated units were owned. We attribute the substantial number of owned units compared to the rented units for the self-enumerated universe to the greater sense of community involvement for homeowners. We are not surprised that the majority of the vacant units (approximately 94.0 percent) were enumerated in NRFU.

Table 13: Tenure of NRFU-enumerated and Self-enumerated Housing Units

Tenure	Enumeration Method					
	Total Enumerated		NRFU		Self	
	#	%	#	%	#	%
Total	113,650,310	100.0	39,273,344	100.0	74,376,966	100.0
▶ Vacant	9,771,862	8.6	9,186,631	23.4	585,231	0.8
▶ Owned	68,782,257	60.5	15,414,050	39.2	53,368,207	71.8
▶ Rented	35,096,191	30.9	14,672,663	37.4	20,423,528	27.5

Data Source: HCEF_D'

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

The unit type in Table 14 is identified by the variable UBSA, or Units at Basic Street Address (BSA). If the unit at the BSA had one unit, it was classified as a single unit; if the unit at the BSA had two or more units, it was classified as a multi-unit. We see that single units are more likely to be self-enumerated than multi-units. Since single units are more likely to be owned and homeowners generally have a stronger community connection, we are not surprised by the high percentage of self-enumerated single units.

Table 14: Unit Type for NRFU-enumerated and Self-enumerated Housing Units

Unit Type	Enumeration Method					
	Total Enumerated		NRFU		Self	
	#	%	#	%	#	%
Total	113,650,310	100.0	39,273,344	100.0	74,376,966	100.0
▶ Single Unit	83,586,888	73.5	25,235,889	64.3	58,350,999	78.5
▶ Multi Unit	30,063,422	26.5	14,037,455	35.7	16,025,967	21.5

Data Source: HCEF_D'

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

Table 15 shows the distribution of males and females. We see that approximately 51.2 percent of the total enumerated population are female and 48.8 percent are males; the self-enumerated population are distributed similarly. While females are more likely to be counted on

self-enumerated returns, i.e. they make up the biggest percentage of the self-enumerated population; there were slightly more males counted on NRFU returns.

Table15: Sex Characteristic for NRFU-enumerated and Self-enumerated Households

Sex	Enumeration Method					
	Total Enumerated		NRFU		Self	
	#	%	#	%	#	%
Total	269,857,783	100.0	80,735,128	100.0	189,122,655	100.0
▶ Male	131,590,641	48.8	40,774,677	50.5	90,815,964	48.0
▶ Female	138,267,142	51.2	39,960,451	49.5	98,306,691	52.0

Data Source: HCEF_D'

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

The ages for the approximately 270 million people that were enumerated range from less than a year old to 115 years old. This range was collapsed into the seven categories shown in Table 16. Approximately 58.8 percent of the NRFU-enumerated were 34 years old or younger, which is approximately 13.4 percentage points higher than the self-enumerated population for these age groups. Approximately 38.7 percent of the self-enumerated persons were 45 or older; approximately 24.5 percent of the NRFU-enumerated were 45 or older. Thus, older people are more likely to be self-enumerated than younger people. In the 35 to 44 age group, there was less than one percentage point difference between the NRFU-enumerated and self-enumerated.

Table 16: Age Distribution for NRFU-enumerated and Self-enumerated Households

Age	Enumeration Method					
	Total Enumerated		NRFU		Self	
	#	%	#	%	#	%
Total	269,857,783	100.0	80,735,128	100.0	189,122,655	100.0
▶ 00 - 17 yrs	70,965,460	26.3	24,063,964	29.8	46,901,496	24.8
▶ 18 - 24 yrs	24,025,140	8.9	9,554,871	11.8	14,470,269	7.7
▶ 25 - 34 yrs	38,214,805	14.2	13,904,029	17.2	24,310,776	12.9
▶ 35 - 44 yrs	43,557,032	16.1	13,435,658	16.6	30,121,374	15.9
▶ 45 - 54 yrs	36,714,202	13.6	9,465,482	11.7	27,248,720	14.4
▶ 55 - 64 yrs	23,719,095	8.8	4,922,418	6.1	18,796,677	9.9
▶ 65 yrs +	32,662,049	12.1	5,388,706	6.7	27,273,343	14.4

Data Source: HCEF_D'

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

The Hispanic category in Table 17 includes those that are Mexican, Puerto Rican, Cuban, Central American, Dominican, Latin/South American and other Hispanic. We see that Hispanics were 18.0 percent of those enumerated in NRFU which is a substantial increase over the percentage of Hispanics in the total enumerated population (13.6 percent) and in the self-enumerated population (11.7 percent).

Table 17: Distribution of Hispanic Origin for NRFU-enumerated and Self-enumerated Households

Hispanic Origin	Enumeration Method					
	Total Enumerated		NRFU		Self	
	#	%	#	%	#	%
Total	269,857,783	100.0	80,735,128	100.0	189,122,655	100.0
▶ Not Hispanic	233,137,947	86.4	66,187,643	82.0	166,950,304	88.3
▶ Hispanic	36,719,836	13.6	14,547,485	18.0	22,172,351	11.7

Data Source: HCEF_D'

Table includes data for Puerto Rico and excludes data for Hialeah, FL LCO 2928

In Table 18, we see that the percentages for all races - except Whites - are higher in the NRFU population than the self-enumerated and total enumerated populations. The largest differences are in the Black and Some Other Race groups. Blacks were 10.0 percent of the self-enumerated population and 18.1 percent of the NRFU-enumerated population; some other race was 4.9 percent of the self-enumerated and 8.9 percent of the NRFU-enumerated. Whites were the only race whose percentage declined in NRFU; while they were 80.1 percent of the self-enumerated population, they were 67.2 percent of the NRFU-enumerated population. The remaining races had minimal differences between the NRFU and self-enumerated methods.

Table 18: Race Distribution for NRFU-enumerated and Self-enumerated Households

Race	Enumeration Method					
	Total Enumerated		NRFU		Self	
	#	%	#	%	#	%
Total	269,857,783	100.0	80,735,128	100.0	189,122,655	100.0
▶ White	205,809,002	76.3	54,248,751	67.2	151,560,251	80.1
▶ Black	33,402,280	12.4	14,573,315	18.1	18,828,965	10.0
▶ American Indian, Alaska Native	2,987,703	1.1	970,025	1.2	2,017,678	1.1
▶ Asian	10,644,567	3.9	3,515,009	4.4	7,129,558	3.8
▶ Native Hawaiian, Other Pacific Islander	578,873	0.2	267,640	0.3	311,233	0.2
▶ Some Other Race	16,435,358	6.1	7,160,388	8.9	9,274,970	4.9

Data Source: HCEF_D'

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

The next table compares the distribution of people living in owned units with those living in rented units. In Table 19, we see that approximately 54.7 percent of the people enumerated in NRFU lived in housing units that were owned and 45.3 percent lived in rented units. The distribution of owned and rented units for the self-enumerated is almost 3 to 1; approximately 74.7 percent of the self-enumerated lived in owned units and 25.3 percent lived in rented units. The household tenure for both the NRFU and self-enumerated are very different from the total.

Table 19: Tenure of NRFU-enumerated and Self-enumerated Households

Tenure	Enumeration Method					
	Total Enumerated		NRFU		Self	
	#	%	#	%	#	%
Total	269,857,783	100.0	80,735,128	100.0	189,122,655	100.0
▶ Owned	185,354,336	68.7	44,145,685	54.7	141,208,651	74.7
▶ Rented	84,503,447	31.3	36,589,443	45.3	47,914,004	25.3

Data Source: HCEF_D'

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

4.3 How was NRFU impacted by other operations?

There were 690,480 addresses added during NRFU. Of those added, 688,944 (99.8 percent) were in areas where NRFU occurred (TEA=1, 2, 6, 7, 9). The remaining 1,536 (0.2 percent) were in areas where NRFU did not occur (TEA=3, 4, 5, 8). In NRFU-eligible TEAs, all 688,944 addresses met the criteria to be included on the DMAF (See U.S. Bureau of the Census, 2000d). In the remaining TEAs, the majority (1,534) of the 1,536 addresses met the criteria to be included on the DMAF (See U.S. Bureau of the Census, 2000d). The 1,534 addresses added in List/Enumerate (L/E), Update/Enumerate (U/E) and Remote Alaska areas (TEA=3, 4, 5, 8) may duplicate addresses already on the address list (DMAF) in those areas. This duplication may have occurred since the L/E, U/E and Remote Alaska address list was created and/or updated independently of NRFU.

In addition to the adds, there were 6,023,232 addresses deleted during NRFU. A table of the 688,944 added and 6,023,232 deleted addresses by state can be seen in Appendix O. Tables 20 - 22 show the distribution of these added and deleted addresses by type of enumeration area, by unit type (single versus multi-unit) and by address type, respectively.

There were three types of enumeration areas in NRFU. They are:

- *Mailout/Mailback (MO/MB)*: areas that are predominately city-style (house number/street name) addresses used for mail delivery by the USPS.
- *Update/Leave (U/L)*: areas that are city-style and non-city-style (e.g., P.O. Box or Rural Route) mailing addresses.
- *Urban Update/Leave (UU/L)*: areas that were originally mailout/mailback that were converted to the update/leave enumeration methodology.

In Table 20 we see that the majority of the added and deleted addresses are in the MO/MB area. While the distribution of the deleted addresses is similar to the workload distribution across the TEAs, there is a disproportionate number of adds in U/L areas (31.9 percent) compared to the U/L workload (21.7 percent). The update/leave areas were canvassed prior to Census Day (March of 2000) during the U/L operation. Although the U/L enumerators added HUs that were missing from the address register, these adds were not processed in time to update the NRFU registers. Consequently, enumerators may have added the missing units again during the NRFU operation and thus inflated the percentage of added addresses in the U/L area.

Table 20: Distribution of Added and Deleted Addresses in NRFU by TEA

TEA	NRFU Universe		Added Addresses		Deleted Addresses	
	#	%	#	%	#	%
Total	42,372,965	100.0	688,944	100.0	6,023,232	100.0
▶ Mailout/Mailback	33,064,507	78.0	466,776	67.8	4,853,310	80.6
▶ Update/Leave	9,186,008	21.7	220,092	31.9	1,148,106	19.1
▶ Urban Update/Leave	122,450	0.3	2,076	0.3	21,816	0.4

Data Source: DMAF and MAF

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

In Table 21, we compare the distribution of added and deleted addresses by unit type (single versus multi-unit). If the unit at the basic street address had one unit, it was classified as a single unit; if it had two or more units, it was classified as a multi-unit. In addition, the multi-units were subdivided by the number of units at the BSA into the five categories shown in Table 21. We see that the distribution of single units and multi-units in the NRFU universe is 61.5 percent and 38.5 percent, respectively; the distribution of the added units is similar to the distribution of the NRFU universe. During NRFU, housing units were deleted within multi-units at a higher rate than they were added.

Table 21: Distribution of Added and Deleted Addresses in NRFU by Unit Type

Unit Type	NRFU Universe		Added Addresses		Deleted Addresses	
	#	%	#	%	#	%
Total	42,372,965	100.0	688,944	100.0	6,023,232	100.0
▶ Single Unit	26,047,160	61.5	473,691	68.8	3,428,782	56.9
▶ Multi Unit	16,325,805	38.5	215,253	31.2	2,594,450	43.1
2 - 4 Units	5,677,905	13.4	78,400	11.4	1,064,443	17.7
5 - 9 Units	2,174,450	5.1	31,811	4.6	352,893	5.9
10 - 19 Units	1,899,429	4.5	23,936	3.5	255,074	4.2
20 - 49 Units	2,031,729	4.8	26,486	3.8	265,060	4.4
50+ Units	4,542,292	10.7	54,620	7.9	656,980	10.9

Data Source: DMAF

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

Table 22 shows the distribution of added and deleted addresses by address type. The classes of address types are based on a hierarchy of available address information; we classify addresses into five categories based on the highest criteria met. These categories are:

- Complete City-Style with and without location description
- Complete Rural Route with and without location description
- Complete P.O. Box with and without location description
- Incomplete Address with and without location description
- No Address Information

The city-style category includes all units that had complete city-style addresses, which consists of a house number and street name. The Rural Route category includes units that did not have a complete city-style address but did have a complete rural route address such as Rural Route 2, Box 3. The P.O. Box category includes units that did not have a complete city-style or complete rural route address but did have a complete P.O. Box address, such as P.O. Box 5. The incomplete category includes units that had some address information but did not have a complete address of any type. Addresses are further delineated by whether or not the address had a location description provided during a census field operation. For additional information on how this variable was defined, see U.S. Bureau of the Census, 2001a.

The majority of the adds and deletes in Table 22 were complete city-style addresses; most of the complete city-style addresses (adds and deletes) did not have a location description. Approximately 96.1 percent of the complete non-city style (rural route and P.O. Box) deletes had a location description which indicates they were probably valid housing units. The majority of these deletes were contacted in Coverage Improvement Followup as part of the vacant/delete component and will be analyzed in the Coverage Improvement Followup (I.4) evaluation . The added and deleted addresses by address type for the mailout/mailback, update/leave, and urban update/leave areas can be found in Appendices P, Q, and R, respectively.

Table 22: Distribution of Added and Deleted Addresses in NRFU by Address Type

Address Type	NRFU Universe		Added Addresses		Deleted Addresses	
	#	%	#	%	#	%
Total	42,372,965	100.0	688,944	100.0	6,023,232	100.0
▶ Complete City-Style	38,370,929	90.6	586,282	85.1	5,342,617	88.7
with location description	1,147,270	2.7	8,090	1.2	184,801	3.1
without location description	37,223,659	87.8	578,192	83.9	5,157,816	85.6
▶ Complete Rural Route	729,742	1.7	1	0.0	64,802	1.1
with location description	717,769	1.7	1	0.0	63,303	1.1
without location description	11,973	0.0	0	0.0	1,499	0.0
▶ Complete PO Box	343,535	0.8	1	0.0	33,439	0.6
with location description	330,212	0.8	1	0.0	31,099	0.5
without location description	13,323	0.0	0	0.0	2,340	0.0
▶ Incomplete Address	410,835	1.0	22,853	3.3	146,818	2.4
with location description	330,788	0.8	1	0.0	127,143	2.1
without location description	80,047	0.2	22,852	3.3	19,675	0.3
▶ No Address Information	2,517,924	5.9	79,807	11.6	435,556	7.2
with location description	2,517,219	5.9	73,550	10.7	435,096	7.2
without location description	705	0.0	6,257	0.9	460	0.0

Data Source: DMAF and MAF

An entry with 0.0 percent indicates the value is less than one-tenth of a percent

Table includes data for Puerto Rico and excludes data for Hialeah, FL LCO 2928

Table 23 shows the distribution of the housing unit IDs that were enumerated multiple times - once in NRFU and again in one or more of the operations listed in the table. We see that there were 4,195,110 IDs that had multiple data captures. These cases represented 9.9 percent of the NRFU workload and increased respondent burden on the public. More than 3.5 million of these NRFU-enumerated IDs also returned a paper questionnaire by mail. Approximately 5.4 percent of the 4.2 million IDs were enumerated in NRFU and at least two other operations. The 52,055 Coverage Edit Followup (CEFU) returns were initially created by a mail return, a Be Counted form, a TQA form or an Internet form that failed the questionnaire review. These forms were sent to CEFU and the initiating form was replaced with a coverage edit form. Since the majority of the multiple data captures were paper mail returns, it is likely that the CEFU cases were also paper mail returns.

Table 23: Distribution of NRFU-enumerated IDs with Multiple Data Captures

Operation	Number of IDs	Percent
Total	4,195,110	100.0
▶ Mail Return	3,538,312	84.3
▶ Be Counted Form (paper)	271,685	6.5
▶ Be Counted Form (via TQA)	104,646	2.5
▶ Internet	145	0.0
▶ Telephone Questionnaire Assistance	1,922	0.0
▶ Coverage Edit Followup	52,055	1.2
▶ Multiple Operations (three or more)	226,345	5.4

Data Source: DMAF

An entry with 0.0 percent indicates the value is less than one-tenth of a percent

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

4.4 How much did the NRFU operation cost?

Total field operation cost for NRFU was taken from PAMS/ADAMS - the payroll and administrative system used to support the 2000 Census. The NRFU field operation cost includes POP99s because the NRFU task code 46 was also used for this small operation; the field operation cost does not include HQ and regional infrastructure costs. We see that the total field operation cost is \$1,123,563,961; the components of the cost are shown in the table below. The mileage cost includes training miles and production miles because training miles were not separately recorded on the payroll form D308. Other objects cost includes civilian personnel benefits, telecommunications services, and other costs.

Table 24: Summary of Field Operation Cost for NRFU (including POP99s)

Cost Component	Dollars	Percent
Total	\$1,123,563,961	100.0
▶ Production Salary Cost	757,756,402	67.4
▶ Training Salary Cost	182,201,464	16.2
▶ Mileage Cost	107,500,627	9.6
▶ Other Objects Cost	76,105,468	6.8

Data Source: U.S. Bureau of the Census, 2001c

The DMAF total workload - after LMR and excluding Puerto Rico - was 41,673,425 housing units. Based on the workload associated with enumerating every housing unit, the cost per case was \$26.96. Note that cost data for Puerto Rico was not available for this report.

5. CONCLUSIONS AND RECOMMENDATIONS

Based on the following, NRFU was a success.

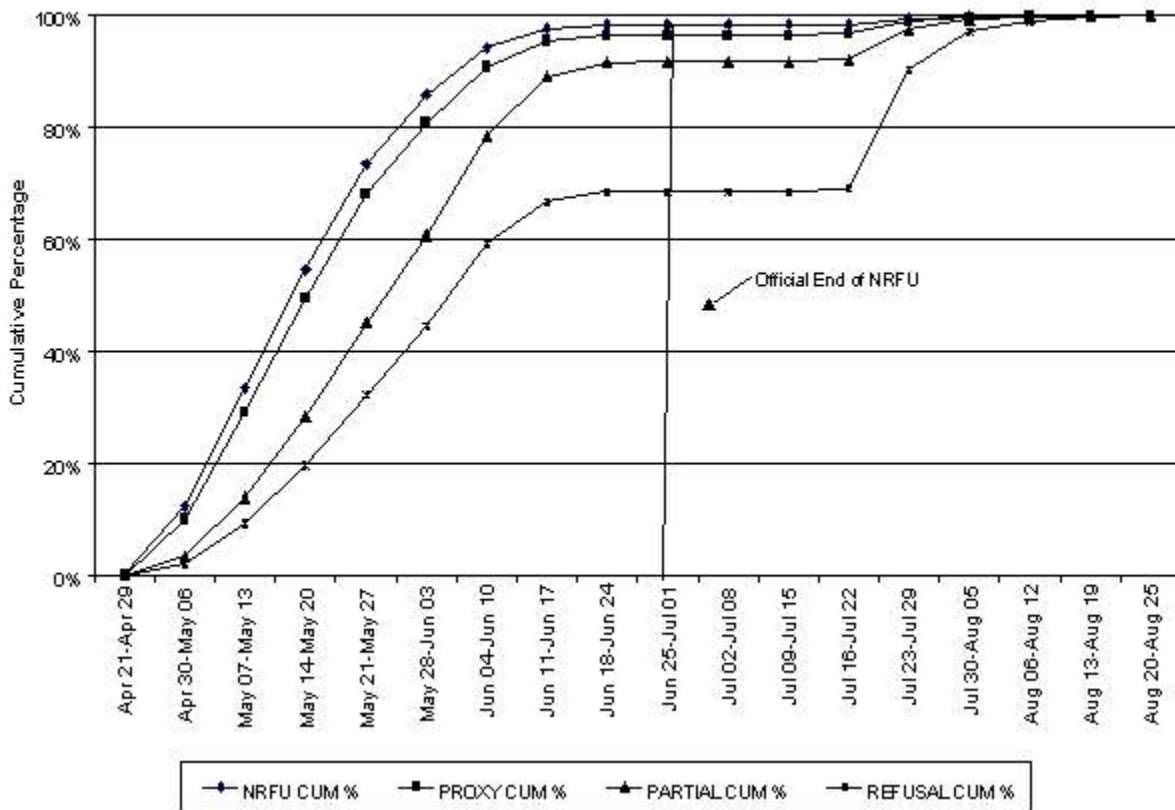
- NRFU officially ended early on June 26, 2000 - ten days ahead of schedule.
- Less than 0.1 percent of the workload had an undetermined status at the end of NRFU.
- Compared to the 5.0 percent target, there was a low final attempt rate - 2.7 percent of the returns.

However, the NRFU operation was not perfect. For example:

- For 5.4 percent of the returns, enumerators failed to indicate whether the interview was with a household member or a proxy.
- Of the 26.4 million occupied units, 117,730 (0.4 percent) had no population count in the OCS 2000.
- Approximately 4.2 million housing units were enumerated multiple times - once in NRFU and again in another data capture operation. Almost 3.5 million of these were enumerated in NRFU and by a paper mail return questionnaire.
- Some housing units had an unrealistically large number of continuation forms attached - as many as 99; these may be group quarters that were misclassified as housing units.

On the next page is a graph showing the cumulative check-in rates of the NRFU EQs. It compares the cumulative check-in rate of the overall NRFU workload with the *proxy*, *partial* and *refusal* workloads that were checked-in between April 21 and August 25, 2000. We see that the proxy interviews followed the same trend that the overall workload followed; partial interviews and refusals followed the same trend until the week of July 23-29. The graph shows a big jump in the rate - from 69.1 percent to 90.4 percent - for refusals during the week of July 23-29; approximately 21.3 percent of the refusal workload was checked-in during this week. Although not as dramatic, the partial interview rate also increased during the week of July 23-29. This workload increased from 92.2 percent to 97.5 percent; approximately 5.3 percent of the partial interview workload was checked-in this week.

Figure 1: Cumulative Check-in of NRFU EQs



Recommendations include:

- Monitor the followup workload in real-time to reduce...
 - the number of NRFU cases with unknown population counts.
 - the number of lost NRFU enumerator returns.
- Periodically identify and remove additional late mail returns from the NRFU workload to reduce...
 - the NRFU workload.
 - the number of housing units with multiple data captures.
- Implement a sufficient QA to ensure...
 - the accuracy of the NRFU production files.
 - the proper use of enumeration techniques to prevent recounts like the one in Hialeah, FL.
- Develop standards/benchmarks with which to measure/judge the results.

References

U.S. Bureau of the Census, 1993, *Programs to Improve Coverage in the 1990.0 Census*, 1990 Census of Population and Housing CPH-E-3, Evaluation and Research Reports, November 1993

U.S. Bureau of the Census, 1999a, *Nonresponse Followup Operation*, Census 2000 Dress Rehearsal Evaluation Memorandum A1b, April 1999

U.S. Bureau of the Census, 1999b, *Quality Assurance Specifications for the Census 2000 Nonresponse Followup Operation*, DSSD Census 2000 Procedures and Operations Memorandum Series #II-9 (revised), August 24, 1999

U.S. Bureau of the Census, 2000a, *Decennial Master Address File Layout*, Decennial Systems and Contracts Management Office, March 31, 2000

U.S. Bureau of the Census, 2000b, *2000 Decennial Census Documentation Decennial Response File—Stage 2 (DRF2)*, Decennial Systems and Contracts Management Office, June 13, 2000

U.S. Bureau of the Census, 2000c, *Nonresponse Followup Program Master Plan*, Decennial Management Division, July 19, 2000

U.S. Bureau of the Census, 2000d, *Specification for Updating the Decennial Master Address File on August 15, 2000*, DSSD Census 2000 Procedures and Operations Memorandum Series #D-1, September 5, 2000

U.S. Bureau of the Census, 2000e, *2000 Decennial Census Documentation Hundred percent Census Edit File with the reinstated housing units (HCEF_D')*, Decennial Systems and Contract Management Office, December 15, 2000

U.S. Bureau of the Census, 2001a, *Determining Address Classification for MAF Evaluation Purposes (Draft)*, Planning, Research, and Evaluation Division TXE/2010 Memorandum Series: MAF-EXT-D-01, March 2001

U.S. Bureau of the Census, 2001b, *Nonresponse Followup (NRFU) for Census 2000*, Census 2000 Operational Summary Study Plan H.5, June 18, 2001

U. S. Bureau of the Census, 2001c, *Coverage Improvement Followup (CIFU)*, Census 2000 Operational Summary Study Plan I.4, June 18, 2001

U.S. Bureau of the Census, 2001d, *Assessment Report for Nonresponse Followup (Draft)*, Decennial Management Division, August 2001

U.S. Bureau of the Census, 2001e, *ESCAP II: Analysis of Census Imputations*, Executive Steering Committee for A.C.E. Policy II (ESCAP II) Report No. 21, September 24, 2001

U.S. Bureau of the Census, 2001f, *Analysis of the Imputation Process*, Census 2000 Operational Summary Study Plan B.1, October 1, 2001

U.S. Bureau of the Census, 2002, *Census 2000 Response and Return Rates - National and State by Form Type*, DSSD Census 2000 Procedures and Operations Memorandum Series L-10, February 12, 2002

Appendix A: Decennial Master Address File (DMAF) Variable Definitions

LCO Local Census Office Code

ST Collection FIPS State Code

COU Collection FIPS County Code

TRACT Nonresponse Followup Tract

MAFID MAF and DMAF ID

characters 1-2 = state code when the MAF ID was assigned
characters 3-5 = county code when the MAF ID was assigned
characters 6-12 = control ID

TEA Type of Enumeration Area

1 = Mailout Mailback
2 = Update Leave
3 = List Enumerate
4 = Remote List Enumerate
5 = Rural Update Enumerate
6 = Military in Update Leave Area
7 = Urban Update Leave
8 = Urban Update Enumerate
9 = Update Leave (converted from TEA 1)

GQFLG Group Quarters Housing Unit Flag

0 = Housing Unit
1 = Special Place
2 = Group Quarters
3 = GQ Embedded Housing Unit

ASAM A Priori Sample

0 = No A Priori Sample (Be Counted or Late Field Add)
1 = Short Form
2 = long Form

NRU Nonresponse Followup Universe

0 = Universe not set
1 = Not in NRFU; data received (This indicates that a form was checked in; it does not guarantee that the form has any data.)
2 = Not in NRFU; but NRD, NRS, NRC and NRPOP will be set by Update/Enumerate or List/Enumerate
3 = In NRFU, Nonresponse
4 = In NRFU, Too late for mailout

NRD NRFU Check-in Month and Day (may also be set from UUE or LE)

0 = No NRFU Check-in
0101-1231 = NRFU Check-in Month and Day

NRS NRFU Status

- 0 = Not in universe or No status received
- 1 = Occupied
- 2 = Occupied - Continuation
- 3 = Vacant - Regular
- 4 = Vacant - Usual Home Elsewhere
- 5 = Demolished
- 6 = Cannot Locate
- 7 = Duplicate
- 8 = Nonresidential
- 9 = Other (open to elements, condemned, under construction)

DC_DRF(12) Source of Data Capture

- 0 = None
 - 1 = Some Data Capture
- The types of data capture for housing units are -
- (1) Mail Return (*RSOURCE: 1, 4 - 10*)
 - (2) Telephone Questionnaire Assistance (TQA) (*RSOURCE: 31*)
 - (3) Internet (*RSOURCE: 30*)
 - (4) Be Counted Form (BCF) (*RSOURCE: 11, 12*)
 - (5) CEFU Data Capture (*RSOURCE: 34 - 36*)
 - (6) NRFU Data Capture (*RSOURCE: 17 - 21*)
 - (7) CIFU Data Capture (*RSOURCE: 22 - 24*)
 - (8) TQA/BCF (*RSOURCE: 3, 32, 33*)
 - (9) List Enumerate/Update Enumerate (*RSOURCE: 13 - 16*)
 - (10) Group Quarters (*RSOURCE: 25 - 29*)
 - (11) Orphans (*RSOURCE: 37*)
 - (12) Other (*RSOURCE: -1*)

GQFLG Group Quarters/Housing Unit Flag

- 0 = Housing Unit
- 1 = Special Place
- 2 = Group Quarters
- 3 = GQ Embedded Housing Unit

MAC(17) MAF Action Codes

A = Add
C = Correction
D = Delete
M = Block Move
N = Nonresidential
U = Uninhabitable
V = Verify

The 17 Operations are -

- | | |
|--|------------------------------------|
| (1) Address Listing | (10) Postal Validation Check |
| (2) Block Canvassing | (11) Nonresponse Followup |
| (3) LUCA 98 | (12) Be Counted Verification |
| (4) LUCA 98 Field Verification | (13) TQA Verification |
| (5) LUCA 99 Relisting | (14) Coverage Improvement Followup |
| (6) LUCA 98 Appeals | (15) New Construction |
| (7) LUCA 99 Appeals | (16) 1990 ACF (A or blank) |
| (8) Special Place/GQ | (17) DR - Specific (PALS,TC,TMUC) |
| (9) Questionnaire Delivery (UL, UE, UUL, LE, or remote AK) | |

MAILD Mail Return Check-in Month and Day

0000 = No Mail Return Check-in
0099 = Reverse Check-in
0101 - 1231 = Check-in Day of 1st Return

Appendix B: Master Address File (MAF) Variable Definitions

MAFID MAF and DMAF ID

characters 1-2 = state code when the MAF ID was assigned
characters 3-5 = county code when the MAF ID was assigned
characters 6-12 = control ID

GQ_HUF Group Quarters/Housing Unit Flag

0 = Housing Unit
1 = Special Place
2 = Group Quarters
3 = GQ Embedded Housing Unit

ADRESTYP Address Type

First Character - existence of a city-style address:

C = Complete if both the house number and street name fields are filled
I = Incomplete if only the street name field is filled
N = Nonexistent if street name is blank

Second Character - existence of a rural route address:

C = Complete if both the rural route descriptor and rural route ID are filled
I = Incomplete if only one of the two fields is filled
N = Nonexistent if both fields are blank

Third Character - existence of a P.O. Box address:

C = Complete if both the P.O. Box descriptor and P.O. Box ID are filled
I = Incomplete if only one of the fields are blank
N = Nonexistent if both fields are blank

Fourth Character - existence of a location description:

Y = Filled if the location description field is filled
N = Blank if the field is blank

DLSPECAF Delivery Specific Address Flag

Y = Valid Address for this Delivery
N = Not a Valid Address for this Delivery

NRFUAC Nonresponse Followup Action Code

A = Add
D = Delete
N = Non-Residential

TEA Type of Enumeration Area

- 1 = Mailout Mailback
- 2 = Update Leave
- 3 = List Enumerate
- 4 = Remote List Enumerate
- 5 = Rural Update Enumerate
- 6 = Military in Update Leave Area
- 7 = Urban Update Leave
- 8 = Urban Update Enumerate
- 9 = Update Leave (converted from TEA 1)

Appendix C: Decennial Response File - Stage 2 (DRF2) Variable Definitions

RST Collection FIPS State Code

RUID Unit ID Number (DMAF)

characters 1-2 = state (when MAF ID was assigned)

characters 3-5 = county

characters 6-12 = sequence ID

RRT Record Type

2 = Return-level record for short form in housing unit

3 = Return-level record for long form in housing unit

RFT Form Type (DRF2)

1 = D-1 (Short Form MR)

2 = D-2 (Long Form MR)

3 = D-1(UL) (Short Form MR)

4 = D-2(UL) (Long Form MR)

5 = D-1(E) (Short Form EQ)

6 = D-2(E) (Long Form EQ)

7 = D-10 (Be Counted)

8 = (not used)

9 = D-15A (ICQ, Short)

10 = D-15B (ICQ, Long)

11 = D-20A (ICR, Short)

12 = D-20B (ICR, Long)

13 = (not used)

14 = D-21 (MCR)

15 = (not used)

16 = D-23 (SCR)

17 = D-1(E)Supp (Enumerator Supplement, Short)

18 = D-2(E)Supp (Enumerator Supplement, Long)

19 = D-1(E) (ccf) (Short EQ converted to continuation)

20 = D-2(E) (ccf) (Long EQ converted to continuation)

RSOURCE Source of Return

- 1 = Not Computed
- 1 = Paper mail back questionnaire from mail out
- 2 = Paper mail back questionnaire from TQA mail out WITH ID
- 3 = Paper mail back questionnaire from TQA mail out with NO ID
- 4 = Paper mail back questionnaire from Update Leave
- 5 = Paper mail back questionnaire from Update Leave ADD
- 6 = Paper mail back questionnaire from Update Leave SUBSTITUTE
- 7 = Paper mail back questionnaire from Urban Update Leave
- 8 = Paper mail back questionnaire from Urban Update Leave ADD
- 9 = Paper mail back questionnaire from Urban Update Leave SUBSTITUTE
- 10 = Paper mail back questionnaire from Request for Foreign Language
- 11 = Paper mail back questionnaire from BCF marked as whole household
- 12 = Paper mail back questionnaire from BCF partial household (i.e., NOT marked as whole household)
- 13 = Paper enumerator questionnaire from List Enumerate
- 14 = Paper enumerator questionnaire from Update Enumerate
- 15 = Paper enumerator questionnaire from Update Enumerate ADD
- 16 = Paper enumerator questionnaire from Update Enumerate SUBSTITUTE
- 17 = Paper enumerator questionnaire from Nonresponse Followup (NRFU)
- 18 = Paper enumerator questionnaire from NRFU ADD
- 19 = Paper enumerator questionnaire from NRFU SUBSTITUTE
- 20 = Paper enumerator questionnaire from NRFU Whole Household Usual Home Elsewhere (WHUHE)
- 21 = Paper enumerator questionnaire from NRFU In-mover
- 22 = Paper enumerator questionnaire from Coverage Improvement Followup (CIFU)
- 23 = Paper enumerator questionnaire from CIFU ADD
- 24 = Paper enumerator questionnaire from CIFU SUBSTITUTE
- 25 = Paper enumerator questionnaire from T-Night
- 26 = Paper questionnaire for UHE from Service-based Enumeration (SBE) (Individual Census Questionnaire (ICQ))
- 27 = Paper questionnaire for UHE from Group Quarters (GQ) enumeration (Individual Census Questionnaire (ICQ))
- 28 = Paper questionnaire for UHE from Military GQ enumeration (Military Census Report (MCR))
- 29 = Paper questionnaire for UHE from Shipboard GQ enumeration (Shipboard Census Report (SCR))
- 30 = Electronic short form from IDC
- 31 = Electronic TQA reverse-CATI short form
- 32 = Electronic TQA reverse-CATI BCF for whole household
- 33 = Electronic TQA reverse-CATI BCF for partial household
- 34 = Electronic Coverage Edit Followup (CEFU) from long or short form
- 35 = Electronic CEFU from BCF for whole household
- 36 = Electronic CEFU from IDC
- 37 = Paper enumerator continuation form - unlinked "orphan"

RCONT Continuation Form Attached

-1 = No Response

1 = "Continuation forms attached" box marked

RCONTN Number of Continuation Forms for this Address

-1 = No Response

1 = Number of continuation forms attached

RISSP Interview Summary Item D - SP, Spanish Interview

RISPI Interview Summary Item G - PI, Partial Interview

RISREF Interview Summary Item H - REF, Refusal

RISREP Interview Summary Item I - REP, Replacement Questionnaire

RISCO Interview Summary item J - CO, Close Out

RHHMEM Respondent Household Member?

-1 = No Response

1 = Lived here on April 1, 2000 [household member]

2 = Moved in after April 1, 2000

3 = Is neighbor or other

**Appendix D: Hundred percent Census Edited File with the reinstated housing units
(HCEF_D') Variable Definitions**

ST Collection FIPS State Code

COU Collection FIPS County Code

LCO Local Census Office

TRACT Nonresponse Followup Tract

HOUSING UNIT RECORD (Record Type 2)

RT Record Type

2 = Housing Unit Record

MAFID MAF and DMAF ID

characters 1-2 = state code when the MAF ID was assigned

characters 3-5 = county code when the MAF ID was assigned

characters 6-12 = control ID

NRU Nonresponse Followup Universe

0 = Universe not set (The ID was added after NRFU was selected.)

1 = Not in NRFU; data received (This indicates that a form was checked in; it does not guarantee that the form has any data.)

2 = Not in NRFU; but NRD, NRS, NRC and NRPOP will be set by Update/Enumerator or List/Enumerate

3 = In NRFU, Nonresponse

4 = In NRFU, Too late for mailout

UBSA Units at Basic Street Address (BSA)

1 = Single unit

2-9999 = Number of units at BSA

STENURE “Is this house, apartment, or mobile home--“

0 = Not in universe (vacant)

1 = Owned by you or someone in this household with a mortgage or loan

2 = Owned by you or someone in this household free and clear

3 = Rented for cash rent

4 = Occupied without payment of cash rent

PERSON RECORD (Record Types 3 and 5)

RT Record Type

3 = Housing unit person record

5 = Group quarters person record

PUID Unit ID Number

characters 1-2 = state code when the MAF ID was assigned
characters 3-5 = county code when the MAF ID was assigned
characters 6-12 = control ID

QSEX Sex

1 = Male
2 = Female

QAGE Age

000-115 = Age

QSPANX Hispanic Origin Edit/Allocation Group

1 = Not Hispanic
2 = Mexican
3 = Puerto Rican
4 = Cuban
5 = Central American, Dominican
6 = Latin/South American
7 = Other Hispanic

QRACEX Race Edit/Allocation Group

1 = White
2 = Black, African American, or Negro
3 = American Indian or Alaska Native
4 = Asian
5 = Native Hawaiian or Other Pacific Islander
6 = Some Other Race

Appendix E: Distribution of the Nonresponse Followup (NRFU) Universes by State

State	NRFU Eligible	Initial Universe	Late Mail Return	NRFU Universe	% NRFU Universe
Total:					
▶ with PR	119,090,016	44,928,883	2,555,918	42,372,965	100.0
▶ w/o PR	117,732,715	44,175,327	2,501,902	41,673,425	98.3
AL	2,024,441	871,766	32,720	839,046	2.0
AK	235,167	118,312	7,606	110,706	0.3
AZ	2,118,544	863,162	44,694	818,468	1.9
AR	1,192,804	477,328	22,655	454,673	1.1
CA	12,479,096	4,377,006	284,292	4,092,714	9.7
CO	1,809,049	630,333	47,140	583,193	1.4
CT	1,438,792	509,160	35,386	473,774	1.1
DE	355,909	146,378	6,202	140,176	0.3
DC	288,198	130,178	5,992	124,186	0.3
FL	7,211,054	2,959,885	142,892	2,816,993	6.6
GA	3,427,442	1,340,278	59,343	1,280,935	3.0
HI	483,671	217,643	9,945	207,698	0.5
ID	522,459	197,257	8,940	188,317	0.4
IL	5,071,388	1,822,855	116,983	1,705,872	4.0
IN	2,627,107	934,836	50,003	884,833	2.1
IA	1,254,504	386,024	48,650	337,374	0.8
KS	1,154,224	396,933	27,566	369,367	0.9
KY	1,772,082	679,593	29,959	649,634	1.5
LA	1,916,653	845,542	35,431	810,111	1.9
ME	573,833	246,207	8,927	237,280	0.6
MD	2,203,779	790,255	42,719	747,536	1.8
MA	2,648,279	932,391	53,178	879,213	2.1
MI	4,354,159	1,427,089	69,750	1,357,339	3.2
MN	2,091,857	666,856	69,939	596,917	1.4

State	NRFU Eligible	Initial Universe	Late Mail Return	NRFU Universe	% NRFU Universe
MS	1,190,079	509,087	31,641	477,446	1.1
MO	2,502,097	909,579	83,242	826,337	2.0
MT	375,376	136,218	8,223	127,995	0.3
NE	725,835	218,767	17,009	201,758	0.5
NV	780,343	303,028	17,020	286,008	0.7
NH	509,283	189,613	9,464	180,149	0.4
NJ	3,428,279	1,242,991	63,050	1,179,941	2.8
NM	718,643	308,371	15,748	292,623	0.7
NY	7,973,202	3,276,577	146,596	3,129,981	7.4
NC	3,558,262	1,481,229	86,371	1,394,858	3.3
ND	276,078	92,203	7,621	84,582	0.2
OH	4,933,825	1,586,047	90,998	1,495,049	3.5
OK	1,537,777	621,543	31,742	589,801	1.4
OR	1,493,717	554,370	29,295	525,075	1.2
PA	5,356,326	1,828,550	98,004	1,730,546	4.1
RI	452,956	167,143	7,798	159,345	0.4
SC	1,839,223	846,932	36,743	810,189	1.9
SD	300,372	92,289	6,662	85,627	0.2
TN	2,515,515	997,993	49,619	948,374	2.2
TX	8,167,641	3,383,249	205,853	3,177,396	7.5
UT	762,675	282,860	16,996	265,864	0.6
VT	256,451	113,198	5,304	107,894	0.3
VA	2,937,622	976,672	59,763	916,909	2.2
WA	2,541,696	985,484	50,043	935,441	2.2
WV	854,624	342,672	19,422	323,250	0.8
WI	2,307,344	691,255	43,640	647,615	1.5
WY	182,983	70,140	3,123	67,017	0.2

State	NRFU Eligible	Initial Universe	Late Mail Return	NRFU Universe	% NRFU Universe
PR	1,357,301	753,556	54,016	699,540	1.7

Data Source: DMAF

Table excludes data for Hialeah, FL (LCO 2928)

Appendix F: Classification of Nonresponse Followup (NRFU) Housing Units by State and by Form Type (Short versus Long)

State	Short Forms				Long Forms			
	Occupied	Vacant	Delete	Undetermined	Occupied	Vacant	Delete	Undetermined
Total:								
▶ with PR	20,397,349	7,799,783	4,853,394	6,109	6,021,008	2,093,263	1,201,005	1,054
▶ without PR	20,018,989	7,684,454	4,789,952	4,443	5,922,560	2,066,376	1,185,767	884
AL	370,458	172,027	118,006	4	107,635	41,646	29,268	2
AK	52,601	19,145	13,141	57	16,135	5,748	3,879	0
AZ	373,004	196,005	92,579	35	94,860	42,297	19,657	31
AR	189,424	94,801	54,417	77	69,364	29,091	17,459	40
CA	2,284,824	551,139	443,994	1,624	604,540	117,361	89,138	94
CO	287,812	96,802	70,193	60	83,479	28,253	16,552	42
CT	249,371	72,995	52,671	12	71,812	15,808	11,101	4
DE	59,490	33,051	16,454	3	17,355	9,985	3,838	0
DC	61,067	23,842	14,105	195	16,809	5,109	3,019	40
FL	1,262,053	761,507	287,139	42	301,622	148,026	56,586	18
GA	602,169	219,505	205,199	21	158,819	49,700	45,512	10
HI	91,311	44,865	27,516	6	26,148	11,385	6,452	15
ID	79,826	36,818	23,094	131	28,266	13,016	7,118	48
IL	867,742	242,929	221,798	174	259,724	59,196	54,264	45
IN	405,884	162,330	107,119	7	145,495	37,773	26,222	3

State	Short Forms				Long Forms			
	Occupied	Vacant	Delete	Undetermined	Occupied	Vacant	Delete	Undetermined
IA	150,665	58,539	32,986	94	63,855	20,009	11,219	7
KS	169,098	71,563	34,284	78	62,363	21,892	10,084	5
KY	308,774	122,735	75,434	6	94,166	29,991	18,528	0
LA	371,885	150,256	116,259	22	107,794	36,487	27,401	7
ME	88,040	62,609	20,680	1	33,839	25,771	6,339	1
MD	384,310	139,946	71,354	21	106,918	29,702	15,280	5
MA	489,498	119,103	96,204	40	127,029	27,073	20,262	4
MI	541,338	300,756	137,018	23	203,638	131,571	42,983	12
MN	246,923	96,261	53,682	234	115,729	61,112	22,893	83
MS	222,626	93,034	60,710	1	63,423	22,597	15,054	1
MO	344,484	187,303	91,775	131	121,714	54,501	26,364	65
MT	46,296	27,930	14,028	17	19,948	13,372	6,396	8
NE	88,301	37,653	14,895	117	38,346	16,062	6,372	12
NV	159,285	56,769	20,066	95	35,105	10,834	3,822	32
NH	81,633	36,969	18,468	1	25,456	12,649	4,972	1
NJ	605,033	203,194	129,201	40	165,190	48,101	29,176	6
NM	131,389	65,249	34,872	32	34,884	17,427	8,766	4
NY	1,585,636	444,127	443,736	216	421,838	126,843	107,542	43
NC	652,071	285,950	159,683	27	183,913	75,034	38,173	7

State	Short Forms				Long Forms			
	Occupied	Vacant	Delete	Undetermined	Occupied	Vacant	Delete	Undetermined
ND	30,113	17,399	8,880	7	14,996	9,218	3,969	0
OH	736,075	277,516	153,838	26	224,654	64,867	38,061	12
OK	248,825	125,277	52,957	146	99,776	43,640	19,141	39
OR	258,094	92,110	61,559	283	75,160	22,830	15,021	18
PA	766,837	321,430	211,720	26	270,550	101,609	58,366	8
RI	85,992	24,676	18,502	9	21,261	4,971	3,933	1
SC	346,938	164,845	131,952	16	97,157	39,078	30,200	3
SD	31,779	18,201	8,303	9	15,333	8,496	3,490	16
TN	470,294	166,386	122,268	17	125,966	36,238	27,202	3
TX	1,604,752	592,596	298,815	46	453,523	151,545	76,086	33
UT	129,077	44,634	32,235	5	39,759	12,602	7,550	2
VT	36,795	22,598	12,552	1	17,422	14,190	4,335	1
VA	482,120	165,291	84,183	85	131,705	35,498	18,007	20
WA	482,049	143,991	112,756	87	133,941	34,938	27,655	24
WV	134,797	81,218	33,934	3	43,471	20,362	9,464	1
WI	243,188	124,018	63,445	18	121,754	66,466	28,719	7
WY	26,943	14,561	9,293	15	8,921	4,406	2,877	1
PR	378,360	115,329	63,442	1,666	98,448	26,887	15,238	170

Data Source: DMAF

Table excludes data for Hialeah, FL (LCO 2928)

**Appendix G: Distribution of Nonresponse Followup (NRFU) Enumerator Questionnaires
(EQs) Checked-in by Day and by Form Type**

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Total	33,050,538	9,315,278	42,365,816	42,365,816	100.00
Apr 21	28	9	37	37	0.00
Apr 24	233	49	282	319	0.00
Apr 25	1,993	188	2,181	2,500	0.01
Apr 26	1,974	280	2,254	4,754	0.01
Apr 27	8,910	1,210	10,120	14,874	0.04
Apr 28	41,391	6,129	47,520	62,394	0.15
Apr 29	49,689	7,602	57,291	119,685	0.28
Apr 30	48,624	7,931	56,555	176,240	0.42
May 1	325,407	57,849	383,256	559,496	1.32
May 2	630,317	121,051	751,368	1,310,864	3.09
May 3	797,632	166,868	964,500	2,275,364	5.37
May 4	941,792	206,699	1,148,491	3,423,855	8.08
May 5	971,745	223,428	1,195,173	4,619,028	10.90
May 6	512,562	120,757	633,319	5,252,347	12.40
May 7	359,435	80,555	439,990	5,692,337	13.44
May 8	1,238,544	293,823	1,532,367	7,224,704	17.05
May 9	1,328,157	330,620	1,658,777	8,883,481	20.97
May 10	1,244,972	316,728	1,561,700	10,445,181	24.65
May 11	1,209,302	315,351	1,524,653	11,969,834	28.25
May 12	1,148,696	300,965	1,449,661	13,419,495	31.68
May 13	602,257	155,188	757,445	14,176,940	33.46
May 14	380,572	92,244	472,816	14,649,756	34.58
May 15	1,306,447	337,815	1,644,262	16,294,018	38.46
May 16	1,230,925	327,413	1,558,338	17,852,356	42.14
May 17	1,193,195	321,496	1,514,691	19,367,047	45.71

Date	Form Type		Cumulative		
	Short Forms	Long Forms	Total	Total	Percent
May 18	1,187,107	324,430	1,511,537	20,878,584	49.28
May 19	1,113,693	306,666	1,420,359	22,298,943	52.63
May 20	634,898	170,443	805,341	23,104,284	54.54
May 21	541,725	139,814	681,539	23,785,823	56.14
May 22	1,238,815	342,143	1,580,958	25,366,781	59.88
May 23	1,091,678	311,288	1,402,966	26,769,747	63.19
May 24	1,019,330	296,240	1,315,570	28,085,317	66.29
May 25	962,958	284,131	1,247,089	29,332,406	69.24
May 26	877,890	261,602	1,139,492	30,471,898	71.93
May 27	531,807	155,134	686,941	31,158,839	73.55
May 28	393,639	112,279	505,918	31,664,757	74.74
May 29	575,624	168,655	744,279	32,409,036	76.50
May 30	614,240	194,558	808,798	33,217,834	78.41
May 31	690,848	221,512	912,360	34,130,194	80.56
Jun 1	679,032	220,699	899,731	35,029,925	82.68
Jun 2	618,151	210,852	829,003	35,858,928	84.64
Jun 3	370,184	126,332	496,516	36,355,444	85.81
Jun 4	307,856	106,014	413,870	36,769,314	86.79
Jun 5	566,502	199,868	766,370	37,535,684	88.60
Jun 6	440,802	161,303	602,105	38,137,789	90.02
Jun 7	399,846	151,223	551,069	38,688,858	91.32
Jun 8	373,390	143,102	516,492	39,205,350	92.54
Jun 9	320,948	126,751	447,699	39,653,049	93.60
Jun 10	207,343	81,656	288,999	39,942,048	94.28
Jun 11	167,164	67,755	234,919	40,176,967	94.83
Jun 12	231,619	93,542	325,161	40,502,128	95.60
Jun 13	173,488	69,737	243,225	40,745,353	96.18

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Jun 14	138,757	56,780	195,537	40,940,890	96.64
Jun 15	127,295	53,963	181,258	41,122,148	97.06
Jun 16	109,205	47,555	156,760	41,278,908	97.43
Jun 17	73,280	32,512	105,792	41,384,700	97.68
Jun 18	41,562	17,633	59,195	41,443,895	97.82
Jun 19	59,696	26,242	85,938	41,529,833	98.03
Jun 20	33,769	14,142	47,911	41,577,744	98.14
Jun 21	23,818	9,935	33,753	41,611,497	98.22
Jun 22	13,264	5,744	19,008	41,630,505	98.26
Jun 23	9,498	3,741	13,239	41,643,744	98.30
Jun 24	1,544	701	2,245	41,645,989	98.30
Jun 25	2,101	782	2,883	41,648,872	98.31
Jun 26	3,299	1,047	4,346	41,653,218	98.32
Jun 27	1,332	370	1,702	41,654,920	98.32
Jun 28	1,217	429	1,646	41,656,566	98.33
Jun 29	595	122	717	41,657,283	98.33
Jun 30	512	148	660	41,657,943	98.33
Jul 1	1	3	4	41,657,947	98.33
Jul 3	793	162	955	41,658,902	98.33
Jul 5	408	104	512	41,659,414	98.33
Jul 6	38	10	48	41,659,462	98.33
Jul 7	83	18	101	41,659,563	98.33
Jul 8	371	74	445	41,660,008	98.33
Jul 9	3	2	5	41,660,013	98.33
Jul 10	260	100	360	41,660,373	98.33
Jul 11	95	21	116	41,660,489	98.34
Jul 12	178	39	217	41,660,706	98.34

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Jul 13	423	107	530	41,661,236	98.34
Jul 14	117	29	146	41,661,382	98.34
Jul 15	1	0	1	41,661,383	98.34
Jul 16	22	0	22	41,661,405	98.34
Jul 17	62	32	94	41,661,499	98.34
Jul 18	2,882	1,456	4,338	41,665,837	98.35
Jul 19	4,789	2,410	7,199	41,673,036	98.36
Jul 20	13,125	5,215	18,340	41,691,376	98.41
Jul 21	12,713	5,456	18,169	41,709,545	98.45
Jul 22	7,828	2,522	10,350	41,719,895	98.48
Jul 23	13,347	5,487	18,834	41,738,729	98.52
Jul 24	56,909	22,570	79,479	41,818,208	98.71
Jul 25	67,606	28,626	96,232	41,914,440	98.93
Jul 26	74,680	32,064	106,744	42,021,184	99.19
Jul 27	53,261	22,996	76,257	42,097,441	99.37
Jul 28	26,289	11,005	37,294	42,134,735	99.45
Jul 29	8,026	3,232	11,258	42,145,993	99.48
Jul 30	9,066	3,445	12,511	42,158,504	99.51
Jul 31	25,834	11,399	37,233	42,195,737	99.60
Aug 1	22,742	8,132	30,874	42,226,611	99.67
Aug 2	15,462	6,090	21,552	42,248,163	99.72
Aug 3	17,596	6,511	24,107	42,272,270	99.78
Aug 4	16,039	6,233	22,272	42,294,542	99.83
Aug 5	5,312	2,085	7,397	42,301,939	99.85
Aug 6	3,414	1,259	4,673	42,306,612	99.86
Aug 7	9,987	3,730	13,717	42,320,329	99.89
Aug 8	6,832	2,929	9,761	42,330,090	99.92

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Aug 9	3,841	845	4,686	42,334,776	99.93
Aug 10	1,819	559	2,378	42,337,154	99.93
Aug 11	1,039	306	1,345	42,338,499	99.94
Aug 12	1,801	561	2,362	42,340	99.94
Aug 13	1,131	331	1,462	42,342,323	99.94
Aug 14	3,229	1,040	4,269	42,346,592	99.95
Aug 15	1,639	490	2,129	42,348,721	99.96
Aug 16	4,280	1,160	5,440	42,354,161	99.97
Aug 17	3,582	999	4,581	42,358,742	99.98
Aug 18	1,228	268	1,496	42,360	99.99
Aug 19	458	173	631	42,360	99.99
Aug 20	517	132	649	42,361,518	99.99
Aug 21	631	229	860	42,362,378	99.99
Aug 22	644	168	812	42,363,190	99.99
Aug 23	724	196	920	42,364,110	100.00
Aug 24	1,095	411	150	42,365,616	100.00
Aug 25	166	34	200	42,365,816	100.00

Data Source: DMAF

Table includes Puerto Rico and excludes Hialeah, FL (LCO 2928)

**Appendix H: Summary Table of Nonresponse Followup (NRFU) Enumerator Questionnaire (EQ)
Return Responses by State**

State	Proxy Interviews	Final Attempt	Partial Interviews	Refusals	Spanish Interviews	Replacement Forms
Total						
▶ with PR	14,474,361	1,042,715	2,061,930	771,002	470,184	705,936
▶ without PR	14,276,925	1,027,740	2,047,177	765,840	469,952	697,378
AL	300,648	18,730	30,529	13,737	751	13,424
AK	35,010	832	3,377	987	35	520
AZ	329,153	27,912	43,967	14,782	24,080	12,044
AR	168,285	5,424	16,369	2,412	1,407	1,668
CA	1,144,239	114,240	233,749	84,613	134,108	76,436
CO	196,131	12,411	37,065	8,963	6,732	8,934
CT	137,084	6,835	20,806	7,137	3,598	7,642
DE	59,495	3,653	6,103	3,814	388	4,200
DC	45,494	5,866	7,340	2,980	1,046	7,699
FL	1,193,051	45,698	133,463	49,620	41,067	53,471
GA	398,502	63,340	63,854	26,216	9,112	23,458
HI	77,229	3,374	5,476	1,541	105	3,224
ID	68,337	2,783	9,453	3,717	1,604	3,600
IL	548,432	50,250	118,177	60,918	30,802	60,494
IN	306,503	36,418	56,480	21,888	2,269	21,529
IA	114,432	3,764	11,513	2,213	933	1,391
KS	134,178	4,939	14,685	4,016	2,464	2,257
KY	219,595	7,697	19,333	3,416	681	1,427
LA	271,796	13,917	34,931	12,071	624	11,887
ME	109,113	255	11,856	1,093	50	1,076
MD	265,321	27,699	46,153	23,847	3,647	36,130
MA	247,787	21,253	38,377	22,134	4,050	20,035
MI	555,645	13,320	61,718	8,263	1,908	8,816

State	Proxy Interviews	Final Attempt	Partial Interviews	Refusals	Spanish Interviews	Replacement Forms
MN	213,068	11,681	33,492	10,313	1,579	10,282
MS	164,845	5,567	16,190	2,418	466	1,524
MO	318,587	11,953	21,096	3,857	1,013	3,684
MT	54,549	1,430	5,186	932	15	1,107
NE	72,990	2,388	5,957	1,336	1,073	1,137
NV	104,149	21,179	15,549	9,961	4,990	6,008
NH	68,426	3,411	10,664	3,023	36	2,393
NJ	374,804	37,206	67,327	26,408	17,686	26,836
NM	111,578	3,815	13,908	4,498	4,240	4,323
NY	928,528	102,885	155,553	85,550	35,704	83,926
NC	490,830	29,446	61,012	18,060	7,287	13,400
ND	33,407	767	3,502	663	7	242
OH	500,856	25,995	58,753	8,666	1,131	7,988
OK	228,157	16,081	29,039	6,723	2,950	3,601
OR	164,353	9,240	26,591	12,422	4,019	4,842
PA	609,352	30,405	78,401	24,764	4,523	22,103
RI	52,076	1,850	5,963	5,255	2,871	7,227
SC	279,850	13,672	30,378	10,308	1,731	11,554
SD	34,222	743	5,679	1,283	54	999
TN	303,355	11,306	43,359	18,271	1,948	16,711
TX	1,121,393	146,234	176,020	73,238	88,955	45,065
UT	82,016	2,692	9,868	3,020	3,024	1,222
VT	45,160	1,052	3,288	1,714	32	325
VA	297,537	20,396	46,083	16,898	3,711	21,353
WA	284,014	15,696	48,774	19,720	5,811	9,256
WV	132,519	1,359	8,162	1,018	70	1,136
WI	255,640	6,988	40,046	14,398	3,482	7,274

State	Proxy Interviews	Final Attempt	Partial Interviews	Refusals	Spanish Interviews	Replacement Forms
WY	25,204	1,693	2,563	745	83	498
PR	197,436	14,975	14,753	5,162	232	8,558

Data Source: DRF2

Table excludes data for Hialeah, FL (LCO 2928)

Appendix I: Example of an Enumerator Questionnaire

Short Form Enumerator Questionnaire Form D-1(E)

OMB No. 0607-0856: Approval Expires 12/31/2000

<p>FORM D-1(E) U.S. DEPARTMENT OF COMMERCE (1-25-99) BUREAU OF THE CENSUS</p> <p style="text-align: center;">ENUMERATOR QUESTIONNAIRE</p> <p style="text-align: center;">United States Census 2000</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">LCO</td> <td style="width: 15%;">State</td> <td style="width: 15%;">County</td> <td style="width: 15%;">Tract</td> <td style="width: 15%;">Block</td> </tr> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>AA</td> <td>Map Spot</td> <td>Unit ID</td> <td colspan="2"></td> </tr> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td colspan="2"></td> </tr> <tr> <td colspan="5" style="text-align: center;"><----- APPLY LABEL HERE -----></td> </tr> <tr> <td>House No.</td> <td colspan="4">Street name, Rural route and box, or PO box</td> </tr> <tr> <td><input type="text"/></td> <td colspan="4"><input type="text"/></td> </tr> <tr> <td>Apt. No. or Location</td> <td colspan="4"><input type="text"/></td> </tr> <tr> <td>City</td> <td>State</td> <td colspan="3">Zip code</td> </tr> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td colspan="3"><input type="text"/></td> </tr> </table>	LCO	State	County	Tract	Block	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	AA	Map Spot	Unit ID			<input type="text"/>	<input type="text"/>	<input type="text"/>			<----- APPLY LABEL HERE ----->					House No.	Street name, Rural route and box, or PO box				<input type="text"/>	<input type="text"/>				Apt. No. or Location	<input type="text"/>				City	State	Zip code			<input type="text"/>	<input type="text"/>	<input type="text"/>		
LCO	State	County	Tract	Block																																															
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
AA	Map Spot	Unit ID																																																	
<input type="text"/>	<input type="text"/>	<input type="text"/>																																																	
<----- APPLY LABEL HERE ----->																																																			
House No.	Street name, Rural route and box, or PO box																																																		
<input type="text"/>	<input type="text"/>																																																		
Apt. No. or Location	<input type="text"/>																																																		
City	State	Zip code																																																	
<input type="text"/>	<input type="text"/>	<input type="text"/>																																																	
<p>Number of continuation forms for this address <input style="width: 30px;" type="text"/></p>																																																			

RECORD OF CONTACT										
Type	Month	Day	Time	Outcome	Type	Month	Day	Time	Outcome	
<input type="checkbox"/> Personal	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> a.m. <input type="text"/> p.m.	<input type="checkbox"/> Personal <input type="checkbox"/> Telephone	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> a.m. <input type="text"/> p.m.	
<input type="checkbox"/> Personal <input type="checkbox"/> Telephone	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> a.m. <input type="text"/> p.m.	<input type="checkbox"/> Personal <input type="checkbox"/> Telephone	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> a.m. <input type="text"/> p.m.	
<input type="checkbox"/> Personal <input type="checkbox"/> Telephone	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> a.m. <input type="text"/> p.m.	<input type="checkbox"/> Personal <input type="checkbox"/> Telephone	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> a.m. <input type="text"/> p.m.	

OUTCOME CODES: NV = Left notice of visit NC = No contact RE = Refusal CI = Conducted interview OT = Other

CERTIFICATION		Crew Leader's initials	CLD number
<p>I certify that the entries I have made on this questionnaire are true and correct to the best of my knowledge.</p>		<input type="text"/>	<input type="text"/>
<p>Enumerator's signature and date</p>		Month	Day
<input style="width: 100%;" type="text"/>		<input type="text"/>	<input type="text"/>

INTRODUCTION

- S1.** Hello, I'm (Your name) from the Census Bureau. (Show ID card.) Is this (Read address)?
 Yes - Continue with question S2
 No - Ask: **Can you tell me where to find** (Read address)? *END INTERVIEW*
- S2.** I'm here to complete a census questionnaire for this address. It should take about 7 minutes.
 This notice (Hand respondent a Privacy Act Notice) explains that your answers are kept confidential.
Did you or anyone in this household live here on Saturday, April 1, 2000?
 Yes - Continue with question S3 No → Skip to question S4
- S3.** Is this (house/apartment/mobile home) a vacation or seasonal home, or only occasionally occupied by your household?
 Yes → Skip to items A, B, and C in the "Interview summary" block and refer to Card J.
 No → Skip to S5
- S4.** On April 1, 2000 was the unit -
 Vacant → Skip to items A, B, and C in the "Interview Summary" block and refer to Card K.
 Occupied by a different household? Using a knowledgeable respondent, complete this questionnaire for the Census Day household and refer to Card K.
- S5.** How many people were living or staying in this (house/apartment/mobile home) on April 1, 2000?
 Number of people

Long Form Enumerator Questionnaire Form D-2(E)

OMB No. 0607-0856: Approval Expires 12/31/2000

<p>FORM D-2(E) U.S. DEPARTMENT OF COMMERCE (1-25-99) BUREAU OF THE CENSUS</p> <p style="text-align: center;">ENUMERATOR QUESTIONNAIRE</p> <p style="text-align: center;">United States Census 2000</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; border-bottom: 1px solid black;">LCO</td> <td style="width: 15%; border-bottom: 1px solid black;">State</td> <td style="width: 15%; border-bottom: 1px solid black;">County</td> <td style="width: 15%; border-bottom: 1px solid black;">Tract</td> <td style="width: 15%; border-bottom: 1px solid black;">Block</td> </tr> <tr> <td style="border-bottom: 1px solid black;">AA</td> <td colspan="2" style="border-bottom: 1px solid black;">Map Spot</td> <td colspan="2" style="border-bottom: 1px solid black;">Unit ID</td> </tr> <tr> <td colspan="5" style="text-align: center; border-top: 1px dashed black;"><----- APPLY LABEL HERE -----></td> </tr> <tr> <td style="border-bottom: 1px solid black;">House No.</td> <td colspan="4" style="border-bottom: 1px solid black;">Street name, Rural route and box, or PO box</td> </tr> <tr> <td style="border-bottom: 1px solid black;">Apt. No. or Location</td> <td colspan="4" style="border-bottom: 1px solid black;"></td> </tr> <tr> <td style="border-bottom: 1px solid black;">City</td> <td style="border-bottom: 1px solid black;">State</td> <td colspan="3" style="border-bottom: 1px solid black;">Zip code</td> </tr> </table>	LCO	State	County	Tract	Block	AA	Map Spot		Unit ID		<----- APPLY LABEL HERE ----->					House No.	Street name, Rural route and box, or PO box				Apt. No. or Location					City	State	Zip code		
LCO	State	County	Tract	Block																											
AA	Map Spot		Unit ID																												
<----- APPLY LABEL HERE ----->																															
House No.	Street name, Rural route and box, or PO box																														
Apt. No. or Location																															
City	State	Zip code																													
<p><input type="checkbox"/> Continuation form(s) attached</p> <p>Number of continuation forms for this address <input style="width: 30px;" type="text"/></p>																															

RECORD OF CONTACT									
Type	Month	Day	Time	Outcome	Type	Month	Day	Time	Outcome
<input type="checkbox"/> Personal				<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	<input type="checkbox"/> Personal <input type="checkbox"/> Telephone				<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
<input type="checkbox"/> Personal <input type="checkbox"/> Telephone				<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	<input type="checkbox"/> Personal <input type="checkbox"/> Telephone				<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
<input type="checkbox"/> Personal <input type="checkbox"/> Telephone				<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	<input type="checkbox"/> Personal <input type="checkbox"/> Telephone				<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.

OUTCOME CODES: NV = Left notice of visit NC = No contact RE = Refusal CI = Conducted interview OT = Other

CERTIFICATION				Crew Leader's initials	CLD number
I certify that the entries I have made on this questionnaire are true and correct to the best of my knowledge.				<input type="text"/>	<input type="text"/>
Enumerator's signature and date				Month	Day
<input type="text"/>				<input type="text"/>	<input type="text"/>

INTRODUCTION	
S1.	<p>Hello, I'm (Your name) from the Census Bureau. (Show ID card.) Is this (Read address)?</p> <p><input type="checkbox"/> Yes - Continue with question S2</p> <p><input type="checkbox"/> No - Ask: Can you tell me where to find (Read address)? <i>END INTERVIEW</i></p>
S2.	<p>I'm here to complete a census questionnaire for this address. It should take about 30 minutes. This notice (Hand respondent a Privacy Act Notice) explains that your answers are kept confidential. Did you or anyone in this household live here on Saturday, April 1, 2000?</p> <p><input type="checkbox"/> Yes - Continue with question S3 <input type="checkbox"/> No → Skip to question S4</p>
S3.	<p>Is this (house/apartment/mobile home) a vacation or seasonal home, or only occasionally occupied by your household?</p> <p><input type="checkbox"/> Yes → Skip to question 35 and ask the double underline questions (35, 36, 38-41, and 45a-b).</p> <ul style="list-style-type: none"> • If the unit is "For rent," ask questions 47a-b. If the unit is "For sale only," ask question 56. • Then complete items A, B, and C in the "Interview Summary" block and refer to Card J. <p><input type="checkbox"/> No → Skip to S5</p>
S4.	<p>On April 1, 2000 was the unit -</p> <p><input type="checkbox"/> Vacant → Skip to question 35 and ask the double-underlined questions (35, 36, 38-41, and 45a-b).</p> <ul style="list-style-type: none"> • If the unit is "For rent," ask questions 47a-b. If the unit is "For sale only," ask question 56. • Then complete items A, B, and C in the "Interview Summary" block and refer to Card K. <p><input type="checkbox"/> Occupied by a different household? Using a knowledgeable respondent, complete this questionnaire for the Census Day household and refer to Card K.</p>
S5.	<p>How many people were living or staying in this (house/apartment/mobile home) on April 1, 2000?</p> <p><input type="text"/> Number of people</p>

From the last page of the Enumerator Questionnaire

RESPONDENT INFORMATION		
<p>R1. Enter respondent's name.</p> <p>First name</p> <input style="width: 100%; height: 20px;" type="text"/> <p>Last name</p> <input style="width: 100%; height: 20px;" type="text"/>	<p>R2. In case we need to contact you, what is your telephone number and the best time to call?</p> <p>Area code Telephone number</p> <input style="width: 30px;" type="text"/> - <input style="width: 30px;" type="text"/> - <input style="width: 30px;" type="text"/> <p><input type="checkbox"/> Day <input type="checkbox"/> Evening <input type="checkbox"/> Either</p>	<p>R3. Respondent -</p> <p><input type="checkbox"/> Lived here on April 1, 2000</p> <p><input type="checkbox"/> Moved in after April 1, 2000 (Refer to Card K)</p> <p><input type="checkbox"/> Is neighbor or other</p>

INTERVIEW SUMMARY																											
<p>A. Status on April 1, 2000</p> <input style="width: 100%; height: 20px;" type="text"/> <p>1 = Occupied 2 = Occupied - Continuation 3 = Vacant - Usual home elsewhere 5 = Demolished/Burned out 6 = Cannot locate 7 = Duplicate 8 = Nonresidential 9 = Other (open to elements, condemned, under construction)</p>	<p>B. POP on April 1, 2000</p> <input style="width: 100%; height: 20px;" type="text"/> <p>01-97 = Total persons 00 = Vacant 98 = Delete 99 = POP unknown</p>	<p>C. VACANT - Which category best described this vacant unit as of April 1, 2000?</p> <p><input type="checkbox"/> For rent <input type="checkbox"/> For sale only <input type="checkbox"/> Rented or sold, not occupied <input type="checkbox"/> For seasonal, recreational, or occasional use <input type="checkbox"/> For migrant workers <input type="checkbox"/> Other vacant</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">D. SP</td> <td style="text-align: center;">E. UHE</td> <td style="text-align: center;">F. MOV</td> <td style="text-align: center;">G. PI</td> </tr> <tr> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> </tr> <tr> <td style="text-align: center;">H. REF</td> <td style="text-align: center;">I. REP</td> <td style="text-align: center;">J. CO</td> <td style="text-align: center;">K. TC</td> </tr> <tr> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> </tr> <tr> <td style="text-align: center;">L. JIC1</td> <td style="text-align: center;">M. JIC2</td> <td style="text-align: center;">N. JIC3</td> <td style="text-align: center;">O. JIC4</td> </tr> <tr> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="text"/></td> </tr> </table>	D. SP	E. UHE	F. MOV	G. PI	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	H. REF	I. REP	J. CO	K. TC	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	L. JIC1	M. JIC2	N. JIC3	O. JIC4	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>
D. SP	E. UHE	F. MOV	G. PI																								
<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>																								
H. REF	I. REP	J. CO	K. TC																								
<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>																								
L. JIC1	M. JIC2	N. JIC3	O. JIC4																								
<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>																								

Appendix J: Distribution of Nonresponse Followup (NRFU) Respondent Responses by State and by Form Type

State	Form Type							
	Short Forms				Long Forms			
	No Response	HH Member	In-Mover	Neighbor/ Other	No Response	HH Member	In-Mover	Neighbor/ Other
Total								
▶ with PR	1,541,277	17,045,202	666,760	10,734,360	542,740	5,032,871	170,968	2,902,273
▶ without PR	1,515,733	16,707,862	662,929	10,578,180	535,778	4,943,228	169,916	2,865,900
AL	42,430	303,171	10,359	229,807	13,881	88,326	2,640	57,842
AK	902	46,549	1,718	25,217	525	14,084	525	7,550
AZ	32,434	303,569	15,992	253,128	10,373	75,828	3,603	56,430
AR	12,617	161,931	6,728	121,588	4,809	59,917	2,143	37,826
CA	124,272	1,925,084	71,871	858,119	43,658	504,188	16,349	197,900
CO	19,915	231,982	12,096	140,296	7,487	66,713	2,956	40,783
CT	15,044	212,282	7,381	104,160	5,422	61,484	1,771	23,772
DE	8,543	47,306	1,953	43,952	3,057	13,431	468	13,122
DC	12,759	48,415	1,667	34,826	3,927	13,089	429	8,572
FL	109,492	1,034,028	47,154	945,175	30,649	245,862	10,107	190,615
GA	68,807	493,370	21,223	301,294	20,156	129,412	4,946	71,039
HI	4,911	79,100	2,725	58,795	2,018	22,386	678	15,031
ID	2,886	69,031	3,519	47,395	1,420	24,695	1,053	16,370

State	Form Type							
	Short Forms				Long Forms			
	No Response	HH Member	In-Mover	Neighbor/ Other	No Response	HH Member	In-Mover	Neighbor/ Other
IL	83,427	706,228	23,279	412,487	27,234	212,640	5,997	106,669
IN	36,675	328,372	17,340	225,890	14,245	120,417	4,356	58,917
IA	6,620	126,117	5,875	79,226	3,581	54,348	1,946	27,385
KS	8,178	141,459	7,322	95,090	3,615	52,727	2,091	29,675
KY	15,987	261,242	10,014	165,472	5,907	80,116	2,661	41,448
LA	27,002	315,312	10,043	207,039	8,680	91,494	2,463	52,251
ME	3,783	75,006	4,091	73,983	1,864	28,842	1,382	29,657
MD	48,236	316,320	12,609	202,265	16,582	85,982	2,923	47,524
MA	36,143	411,247	12,047	189,311	12,290	106,863	2,778	43,651
MI	39,144	452,483	23,652	370,921	16,583	172,695	7,276	153,796
MN	15,350	208,064	7,789	129,776	12,273	99,458	3,287	72,216
MS	14,301	188,996	5,858	126,314	4,146	54,415	1,492	31,181
MO	18,724	290,556	14,814	230,587	7,642	103,066	4,403	68,783
MT	1,984	38,176	1,983	35,749	1,425	16,746	713	16,104
NE	4,294	73,836	3,539	48,341	2,772	32,188	1,213	19,897
NV	10,886	129,443	6,808	79,753	3,238	27,824	1,365	16,223
NH	6,338	68,198	2,430	49,497	2,710	21,340	708	15,791

State	Form Type							
	Short Forms				Long Forms			
	No Response	HH Member	In-Mover	Neighbor/ Other	No Response	HH Member	In-Mover	Neighbor/ Other
NJ	59,639	514,769	14,990	285,350	20,036	138,719	3,731	70,733
NM	8,689	111,319	5,199	83,127	2,839	29,467	1,204	22,048
NY	164,308	1,333,500	31,812	696,391	50,671	350,556	8,789	191,536
NC	55,866	544,919	23,574	365,901	18,876	153,945	6,118	95,237
ND	1,197	25,195	1,332	20,990	850	12,948	480	10,605
OH	33,857	619,996	28,703	372,766	13,533	189,165	7,441	91,946
OK	11,830	209,559	10,565	157,894	5,589	84,525	3,347	56,351
OR	15,059	218,924	10,651	121,057	6,357	63,820	2,561	30,084
PA	51,756	637,660	20,645	443,908	21,305	228,038	5,793	139,006
RI	9,226	70,234	2,794	40,058	2,693	17,448	646	8,578
SC	36,663	291,995	11,454	213,808	11,731	81,840	2,694	51,894
SD	1,792	26,724	1,358	22,286	1,575	13,029	494	10,084
TN	39,250	394,034	15,721	231,034	12,733	105,221	3,727	52,873
TX	102,505	1,336,468	55,589	832,711	36,063	373,736	13,478	219,615
UT	6,688	109,261	4,845	59,540	2,261	34,308	1,178	16,453
VT	2,827	30,805	1,022	27,633	1,649	14,492	492	16,013
VA	33,315	407,899	16,894	225,459	11,889	110,499	3,767	51,417

State	Form Type							
	Short Forms				Long Forms			
	No Response	HH Member	In-Mover	Neighbor/ Other	No Response	HH Member	In-Mover	Neighbor/ Other
WA	26,544	403,750	16,890	210,825	10,367	112,267	4,025	52,274
WV	6,370	112,789	3,348	102,279	2,289	37,113	1,038	25,854
WI	14,961	198,921	10,572	161,322	9,600	104,067	3,858	79,888
WY	1,307	22,268	1,092	18,388	703	7,449	333	5,391
PR	25,544	337,340	3,831	156,180	6,962	89,643	1,052	36,373

Data Source: DRF2

Table excludes data for Hialeah, FL (LCO 2928)

Appendix K: Distribution of Nonresponse Followup (NRFU) Proxy Interviews by Day and by Form Type

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Total	11,400,854	3,073,172	14,474,026	14,474,026	100.00
Apr 21	15	2	17	17	0.00
Apr 24	82	11	93	110	0.00
Apr 25	451	48	499	609	0.00
Apr 26	432	59	491	1,100	0.01
Apr 27	1,970	280	2,250	3,350	0.02
Apr 28	8,713	1,324	10,037	13,387	0.09
Apr 29	10,059	1,538	11,597	24,984	0.17
Apr 30	10,343	1,750	12,093	37,077	0.26
May 1	72,118	13,326	85,444	122,521	0.85
May 2	159,347	31,316	190,663	313,184	2.16
May 3	215,418	45,682	261,100	574,284	3.97
May 4	267,290	59,018	326,308	900,592	6.22
May 5	288,082	65,372	353,454	1,254,046	8.66
May 6	156,619	36,058	192,677	1,446,723	10.00
May 7	102,389	22,102	124,491	1,571,214	10.86
May 8	362,101	83,228	445,329	2,016,543	13.93
May 9	405,407	97,037	502,444	2,518,987	17.40
May 10	398,652	96,889	495,541	3,014,528	20.83
May 11	390,721	97,415	488,136	3,502,664	24.20
May 12	380,625	95,817	476,442	3,979,106	27.49
May 13	197,968	49,070	247,038	4,226,144	29.20
May 14	118,741	27,849	146,590	4,372,734	30.21
May 15	419,222	102,883	522,105	4,894,839	33.82
May 16	401,701	102,548	504,249	5,399,088	37.30
May 17	396,832	101,354	498,186	5,897,274	40.74

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
May 18	399,834	103,418	503,252	6,400,526	44.22
May 19	376,552	98,037	474,589	6,875,115	47.50
May 20	215,750	55,017	270,767	7,145,882	49.37
May 21	176,344	42,959	219,303	7,365,185	50.89
May 22	405,903	105,083	510,986	7,876,171	54.42
May 23	371,630	99,312	470,942	8,347,113	57.67
May 24	351,164	94,762	445,926	8,793,039	60.75
May 25	338,543	91,721	430,264	9,223,303	63.72
May 26	313,314	85,736	399,050	9,622,353	66.48
May 27	190,324	50,691	241,015	9,863,368	68.15
May 28	134,781	35,242	170,023	10,033,391	69.32
May 29	195,037	52,050	247,087	10,280,478	71.03
May 30	217,722	63,445	281,167	10,561,645	72.97
May 31	250,942	72,441	323,383	10,885,028	75.20
Jun 1	251,129	72,757	323,886	11,208,914	77.44
Jun 2	236,923	70,997	307,920	11,516,834	79.57
Jun 3	146,621	44,023	190,644	11,707,478	80.89
Jun 4	118,571	35,970	154,541	11,862,019	81.95
Jun 5	217,521	67,951	285,472	12,147,491	83.93
Jun 6	177,680	56,494	234,174	12,381,665	85.54
Jun 7	169,222	55,505	224,727	12,606,392	87.10
Jun 8	162,228	53,983	216,211	12,822,603	88.59
Jun 9	143,949	49,397	193,346	13,015,949	89.93
Jun 10	95,708	32,752	128,460	13,144,409	90.81
Jun 11	75,778	27,237	103,015	13,247,424	91.53
Jun 12	105,392	36,954	142,346	13,389,770	92.51
Jun 13	83,084	28,628	111,712	13,501,482	93.28

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Jun 14	67,713	24,126	91,839	13,593,321	93.92
Jun 15	64,250	23,303	87,553	13,680,874	94.52
Jun 16	58,042	21,483	79,525	13,760,399	95.07
Jun 17	39,920	15,238	55,158	13,815,557	95.45
Jun 18	21,686	7,916	29,602	13,845,159	95.66
Jun 19	32,362	12,326	44,688	13,889,847	95.96
Jun 20	18,902	6,950	25,852	13,915,699	96.14
Jun 21	13,757	4,937	18,694	13,934,393	96.27
Jun 22	7,348	2,858	10,206	13,944,599	96.34
Jun 23	5,792	1,966	7,758	13,952,357	96.40
Jun 24	795	325	1,120	13,953,477	96.40
Jun 25	1,036	352	1,388	13,954,865	96.41
Jun 26	2,389	740	3,129	13,957,994	96.43
Jun 27	1,078	303	1,381	13,959,375	96.44
Jun 28	1,233	359	1,592	13,960,967	96.46
Jun 29	414	88	502	13,961,469	96.46
Jun 30	260	77	337	13,961,806	96.46
Jul 1	1	0	1	13,961,807	96.46
Jul 3	530	100	630	13,962,437	96.47
Jul 5	298	71	369	13,962,806	96.47
Jul 6	20	6	26	13,962,832	96.47
Jul 7	54	17	71	13,962,903	96.47
Jul 8	256	51	307	13,963,210	96.47
Jul 9	2	1	3	13,963,213	96.47
Jul 10	252	113	365	13,963,578	96.47
Jul 11	71	19	90	13,963,668	96.47
Jul 12	89	15	104	13,963,772	96.47

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Jul 13	313	95	408	13,964,180	96.48
Jul 14	72	19	91	13,964,271	96.48
Jul 15	2	0	2	13,964,273	96.48
Jul 16	24	0	24	13,964,297	96.48
Jul 17	46	43	89	13,964,386	96.48
Jul 18	1,792	736	2,528	13,966,914	96.50
Jul 19	1,592	768	2,360	13,969,274	96.51
Jul 20	7,171	2,676	9,847	13,979,121	96.58
Jul 21	7,899	2,987	10,886	13,990,007	96.66
Jul 22	5,412	1,632	7,044	13,997,051	96.70
Jul 23	9,316	3,187	12,503	14,009,554	96.79
Jul 24	41,634	14,645	56,279	14,065,833	97.18
Jul 25	52,782	19,407	72,189	14,138,022	97.68
Jul 26	61,812	23,153	84,965	14,222,987	98.27
Jul 27	42,415	16,045	58,460	14,281,447	98.67
Jul 28	20,046	7,378	27,424	14,308,871	98.86
Jul 29	5,846	2,156	8,002	14,316,873	98.91
Jul 30	6,401	2,214	8,615	14,325,488	98.97
Jul 31	19,172	8,045	27,217	14,352,705	99.16
Aug 1	18,524	5,505	24,029	14,376,734	99.33
Aug 2	11,363	4,154	15,517	14,392,251	99.44
Aug 3	13,108	4,425	17,533	14,409,784	99.56
Aug 4	11,803	4,196	15,999	14,425,783	99.67
Aug 5	3,870	1,371	5,241	14,431,024	99.70
Aug 6	2,502	853	3,355	14,434,379	99.73
Aug 7	6,546	2,248	8,794	14,443,173	99.79
Aug 8	4,552	1,823	6,375	14,449,548	99.83

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Aug 9	2,525	505	3,030	14,452,578	99.85
Aug 10	1,316	382	1,698	14,454,276	99.86
Aug 11	566	181	747	14,455,023	99.87
Aug 12	1,007	272	1,279	14,456,302	99.88
Aug 13	708	212	920	14,457,222	99.88
Aug 14	2,150	643	2,793	14,460,015	99.90
Aug 15	985	279	1,264	14,461,279	99.91
Aug 16	3,294	852	4,146	14,465,425	99.94
Aug 17	2,683	700	3,383	14,468,808	99.96
Aug 18	946	224	1,170	14,469,978	99.97
Aug 19	329	99	428	14,470,406	99.97
Aug 20	367	79	446	14,470,852	99.98
Aug 21	476	184	660	14,471,512	99.98
Aug 22	439	95	534	14,472,046	99.99
Aug 23	542	152	694	14,472,740	99.99
Aug 24	871	256	1,127	14,473,867	100.00
Aug 25	141	18	159	14,474,026	100.00

Data Source: DRF2

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

Appendix L: Distribution of Nonresponse Followup (NRFU) Partial Interviews by Day and by Form Type

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Total	1,064,684	997,178	2,061,862	2,061,862	100.00
Apr 24	1	1	2	2	0.00
Apr 25	12	7	19	21	0.00
Apr 26	10	6	16	37	0.00
Apr 27	65	19	84	121	0.01
Apr 28	318	133	451	572	0.03
Apr 29	278	193	471	1,043	0.05
Apr 30	228	224	452	1,495	0.07
May 1	2,321	1,525	3,846	5,341	0.26
May 2	4,733	3,351	8,084	13,425	0.65
May 3	6,495	5,308	11,803	25,228	1.22
May 4	9,454	7,865	17,319	42,547	2.06
May 5	10,707	9,233	19,940	62,487	3.03
May 6	5,491	5,033	10,524	73,011	3.54
May 7	4,604	3,688	8,292	81,303	3.94
May 8	16,146	13,990	30,136	111,439	5.40
May 9	18,759	17,327	36,086	147,525	7.15
May 10	19,759	17,996	37,755	185,280	8.99
May 11	20,379	19,084	39,463	224,743	10.90
May 12	20,739	19,232	39,971	264,714	12.84
May 13	12,026	11,026	23,052	287,766	13.96
May 14	7,646	6,480	14,126	301,892	14.64
May 15	24,562	22,680	47,242	349,134	16.93
May 16	25,385	23,781	49,166	398,300	19.32
May 17	26,449	24,988	51,437	449,737	21.81
May 18	26,326	25,669	51,995	501,732	24.33

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
May 19	26,393	25,070	51,463	553,195	26.83
May 20	15,776	14,248	30,024	583,219	28.29
May 21	13,224	11,853	25,077	608,296	29.50
May 22	32,103	29,913	62,016	670,312	32.51
May 23	29,122	27,979	57,101	727,413	35.28
May 24	28,509	28,253	56,762	784,175	38.03
May 25	28,496	28,055	56,551	840,726	40.78
May 26	27,815	27,101	54,916	895,642	43.44
May 27	17,773	16,642	34,415	930,057	45.11
May 28	14,588	12,792	27,380	957,437	46.44
May 29	19,744	18,524	38,268	995,705	48.29
May 30	21,313	21,927	43,240	1,038,945	50.39
May 31	27,781	28,300	56,081	1,095,026	53.11
Jun 1	29,306	29,629	58,935	1,153,961	55.97
Jun 2	29,278	30,251	59,529	1,213,490	58.85
Jun 3	19,789	19,380	39,169	1,252,659	60.75
Jun 4	18,386	17,832	36,218	1,288,877	62.51
Jun 5	31,460	31,916	63,376	1,352,253	65.58
Jun 6	28,036	28,364	56,400	1,408,653	68.32
Jun 7	29,709	29,596	59,305	1,467,958	71.20
Jun 8	29,453	29,830	59,283	1,527,241	74.07
Jun 9	26,832	27,886	54,718	1,581,959	76.72
Jun 10	18,841	18,694	37,535	1,619,494	78.55
Jun 11	16,265	15,760	32,025	1,651,519	80.10
Jun 12	21,076	21,689	42,765	1,694,284	82.17
Jun 13	17,188	16,462	33,650	1,727,934	83.80
Jun 14	14,408	14,258	28,666	1,756,600	85.19

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Jun 15	15,434	14,851	30,285	1,786,885	86.66
Jun 16	15,112	14,141	29,253	1,816,138	88.08
Jun 17	11,122	10,275	21,397	1,837,535	89.12
Jun 18	6,275	5,402	11,677	1,849,212	89.69
Jun 19	8,621	7,800	16,421	1,865,633	90.48
Jun 20	5,495	4,705	10,200	1,875,833	90.98
Jun 21	3,643	3,207	6,850	1,882,683	91.31
Jun 22	2,079	1,806	3,885	1,886,568	91.50
Jun 23	1,381	1,103	2,484	1,889,052	91.62
Jun 24	343	260	603	1,889,655	91.65
Jun 25	327	247	574	1,890,229	91.68
Jun 26	269	245	514	1,890,743	91.70
Jun 27	248	146	394	1,891,137	91.72
Jun 28	152	125	277	1,891,414	91.73
Jun 29	83	38	121	1,891,535	91.74
Jun 30	24	37	61	1,891,596	91.74
Jul 3	43	45	88	1,891,684	91.75
Jul 5	60	48	108	1,891,792	91.75
Jul 6	3	1	4	1,891,796	91.75
Jul 7	8	4	12	1,891,808	91.75
Jul 8	59	38	97	1,891,905	91.76
Jul 10	26	27	53	1,891,958	91.76
Jul 11	16	3	19	1,891,977	91.76
Jul 12	31	12	43	1,892,020	91.76
Jul 13	29	9	38	1,892,058	91.76
Jul 14	34	13	47	1,892,105	91.77
Jul 16	16	0	16	1,892,121	91.77

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Jul 17	4	4	8	1,892,129	91.77
Jul 18	567	577	1,144	1,893,273	91.82
Jul 19	286	405	691	1,893,964	91.86
Jul 20	1,257	1,403	2,660	1,896,624	91.99
Jul 21	898	1,314	2,212	1,898,836	92.09
Jul 22	1,023	728	1,751	1,900,587	92.18
Jul 23	2,331	1,850	4,181	1,904,768	92.38
Jul 24	10,091	7,588	17,679	1,922,447	93.24
Jul 25	14,356	10,593	24,949	1,947,396	94.45
Jul 26	16,474	11,964	28,438	1,975,834	95.83
Jul 27	11,802	8,897	20,699	1,996,533	96.83
Jul 28	6,161	4,272	10,433	2,006,966	97.34
Jul 29	1,974	1,255	3,229	2,010,195	97.49
Jul 30	2,075	1,408	3,483	2,013,678	97.66
Jul 31	4,929	4,257	9,186	2,022,864	98.11
Aug 1	4,505	3,066	7,571	2,030,435	98.48
Aug 2	2,644	2,022	4,666	2,035,101	98.70
Aug 3	3,860	2,180	6,040	2,041,141	99.00
Aug 4	2,821	1,802	4,623	2,045,764	99.22
Aug 5	989	606	1,595	2,047,359	99.30
Aug 6	751	482	1,233	2,048,592	99.36
Aug 7	1,775	1,221	2,996	2,051,588	99.50
Aug 8	1,292	1,142	2,434	2,054,022	99.62
Aug 9	694	206	900	2,054,922	99.66
Aug 10	244	108	352	2,055,274	99.68
Aug 11	87	55	142	2,055,416	99.69
Aug 12	188	61	249	2,055,665	99.70

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Aug 13	77	27	104	2,055,769	99.70
Aug 14	416	191	607	2,056,376	99.73
Aug 15	175	95	270	2,056,646	99.75
Aug 16	1,459	496	1,955	2,058,601	99.84
Aug 17	733	401	1,134	2,059,735	99.90
Aug 18	391	183	574	2,060,309	99.92
Aug 19	108	86	194	2,060,503	99.93
Aug 20	99	68	167	2,060,670	99.94
Aug 21	116	117	233	2,060,903	99.95
Aug 22	70	78	148	2,061,051	99.96
Aug 23	167	110	277	2,061,328	99.97
Aug 24	275	201	476	2,061,804	100.00
Aug 25	30	28	58	2,061,862	100.00

Data Source: DRF2

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

Appendix M: Distribution of Nonresponse Followup (NRFU) Refusals by Day and by Form Type

Date	Form Type		Cumulative		
	Short Forms	Long Forms	Total	Total	Percent
Total	433,445	337,554	770,999	770,999	100.00
Apr 25	4	1	5	5	0.00
Apr 26	3	3	6	11	0.00
Apr 27	5	5	10	21	0.00
Apr 28	41	12	53	74	0.01
Apr 29	54	28	82	156	0.02
Apr 30	56	42	98	254	0.03
May 1	488	278	766	1,020	0.13
May 2	1,001	690	1,691	2,711	0.35
May 3	1,455	1,073	2,528	5,239	0.68
May 4	2,001	1,600	3,601	8,840	1.15
May 5	2,584	2,176	4,760	13,600	1.76
May 6	1,489	1,144	2,633	16,233	2.11
May 7	1,139	863	2,002	18,235	2.37
May 8	4,103	3,500	7,603	25,838	3.35
May 9	4,975	4,336	9,311	35,149	4.56
May 10	5,139	4,726	9,865	45,014	5.84
May 11	5,203	5,136	10,339	55,353	7.18
May 12	5,538	5,129	10,667	66,020	8.56
May 13	2,922	2,801	5,723	71,743	9.31
May 14	1,833	1,572	3,405	75,148	9.75
May 15	6,459	6,435	12,894	88,042	11.42
May 16	6,982	6,666	13,648	101,690	13.19
May 17	7,004	6,894	13,898	115,588	14.99
May 18	7,147	7,434	14,581	130,169	16.88
May 19	6,821	6,964	13,785	143,954	18.67

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
May 20	3,967	3,932	7,899	151,853	19.70
May 21	3,231	3,241	6,472	158,325	20.54
May 22	8,627	8,584	17,211	175,536	22.77
May 23	7,773	8,185	15,958	191,494	24.84
May 24	7,688	8,093	15,781	207,275	26.88
May 25	8,398	8,510	16,908	224,183	29.08
May 26	7,744	7,911	15,655	239,838	31.11
May 27	4,807	4,797	9,604	249,442	32.35
May 28	3,589	3,643	7,232	256,674	33.29
May 29	5,782	5,695	11,477	268,151	34.78
May 30	6,449	6,701	13,150	281,301	36.49
May 31	8,127	8,365	16,492	297,793	38.62
Jun 1	7,995	8,405	16,400	314,193	40.75
Jun 2	8,697	8,756	17,453	331,646	43.02
Jun 3	6,179	5,732	11,911	343,557	44.56
Jun 4	5,838	5,518	11,356	354,913	46.03
Jun 5	10,526	9,845	20,371	375,284	48.68
Jun 6	9,205	8,768	17,973	393,257	51.01
Jun 7	9,416	8,684	18,100	411,357	53.35
Jun 8	9,499	8,526	18,025	429,382	55.69
Jun 9	9,038	8,078	17,116	446,498	57.91
Jun 10	5,582	5,215	10,797	457,295	59.31
Jun 11	4,471	4,055	8,526	465,821	60.42
Jun 12	6,921	5,863	12,784	478,605	62.08
Jun 13	4,903	3,941	8,844	487,449	63.22
Jun 14	3,762	3,521	7,283	494,732	64.17
Jun 15	3,911	3,363	7,274	502,006	65.11

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Jun 16	3,916	3,292	7,208	509,214	66.05
Jun 17	2,727	2,236	4,963	514,177	66.69
Jun 18	1,652	1,092	2,744	516,921	67.05
Jun 19	2,930	2,058	4,988	521,909	67.69
Jun 20	1,374	1,046	2,420	524,329	68.01
Jun 21	830	654	1,484	525,813	68.20
Jun 22	460	396	856	526,669	68.31
Jun 23	557	420	977	527,646	68.44
Jun 24	197	114	311	527,957	68.48
Jun 25	209	117	326	528,283	68.52
Jun 26	113	66	179	528,462	68.54
Jun 27	21	17	38	528,500	68.55
Jun 28	50	40	90	528,590	68.56
Jun 29	16	2	18	528,608	68.56
Jun 30	5	3	8	528,616	68.56
Jul 3	9	9	18	528,634	68.56
Jul 5	7	7	14	528,648	68.57
Jul 6	1	0	1	528,649	68.57
Jul 7	26	6	32	528,681	68.57
Jul 8	1	1	2	528,683	68.57
Jul 10	1	1	2	528,685	68.57
Jul 11	9	0	9	528,694	68.57
Jul 12	11	4	15	528,709	68.57
Jul 13	234	86	320	529,029	68.62
Jul 14	34	13	47	529,076	68.62
Jul 17	7	1	8	529,084	68.62
Jul 18	161	185	346	529,430	68.67

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Jul 19	54	51	105	529,535	68.68
Jul 20	699	480	1,179	530,714	68.83
Jul 21	456	348	804	531,518	68.94
Jul 22	908	484	1,392	532,910	69.12
Jul 23	3,550	1,779	5,329	538,239	69.81
Jul 24	17,443	8,817	26,260	564,499	73.22
Jul 25	25,302	13,185	38,487	602,986	78.21
Jul 26	28,277	14,832	43,109	646,095	83.80
Jul 27	20,773	11,061	31,834	677,929	87.93
Jul 28	9,823	4,826	14,649	692,578	89.83
Jul 29	2,879	1,385	4,264	696,842	90.38
Jul 30	3,093	1,304	4,397	701,239	90.95
Jul 31	9,221	4,630	13,851	715,090	92.75
Aug 1	7,555	3,648	11,203	726,293	94.20
Aug 2	4,282	2,091	6,373	732,666	95.03
Aug 3	5,384	2,363	7,747	740,413	96.03
Aug 4	3,969	1,880	5,849	746,262	96.79
Aug 5	1,579	765	2,344	748,606	97.10
Aug 6	1,154	503	1,657	750,263	97.31
Aug 7	2,856	1,401	4,257	754,520	97.86
Aug 8	2,605	1,310	3,915	758,435	98.37
Aug 9	1,340	326	1,666	760,101	98.59
Aug 10	719	224	943	761,044	98.71
Aug 11	402	111	513	761,557	98.78
Aug 12	623	224	847	762,404	98.89
Aug 13	420	133	553	762,957	98.96
Aug 14	1,000	328	1,328	764,285	99.13

Date	Form Type		Total	Cumulative	
	Short Forms	Long Forms		Total	Percent
Aug 15	604	218	822	765,107	99.24
Aug 16	1,556	470	2,026	767,133	99.50
Aug 17	1,484	476	1,960	769,093	99.75
Aug 18	409	114	523	769,616	99.82
Aug 19	172	77	249	769,865	99.85
Aug 20	181	55	236	770,101	99.88
Aug 21	154	88	242	770,343	99.91
Aug 22	79	57	136	770,479	99.93
Aug 23	64	31	95	770,574	99.94
Aug 24	232	175	407	770,981	100.00
Aug 25	15	3	18	770,999	100.00

Data Source: DRF2

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

Appendix N: Distribution of Continuation Forms Used in Nonresponse Followup (NRFU)

State	Number of Continuation forms used	One form attached	Two forms attached	Three forms attached	Four forms attached	Five forms attached	Six - Ten forms attached	Eleven or more forms attached	Invalid Forms
Total:									
▶ with PR	1,255,579	1,175,621	36,920	2,713	652	153	2,972	2,838	33,710
▶ without PR	1,230,423	1,151,514	36,400	2,695	639	151	2,920	2,744	33,360
AL	14,136	12,876	234	16	5	1	39	27	938
AK	3,464	3,356	61	2	1	0	2	5	37
AZ	30,612	28,867	971	63	18	5	63	43	582
AR	9,409	8,894	192	13	4	0	24	18	264
CA	227,062	210,230	11,021	1,077	199	39	511	419	3,566
CO	16,298	15,464	436	42	4	1	29	19	303
CT	11,610	10,917	184	13	7	3	32	24	430
DE	2,864	2,696	63	3	5	0	8	10	79
DC	2,355	2,105	82	9	0	0	13	8	138
FL	63,638	59,798	1,423	85	22	7	149	162	1,992
GA	32,562	30,654	859	46	12	4	67	87	833
HI	11,114	10,113	708	87	26	5	14	15	146
ID	6,310	6,089	104	5	2	2	13	5	90
IL	64,438	59,894	2,140	157	27	8	228	179	1,805

State	Number of Continuation forms used	One form attached	Two forms attached	Three forms attached	Four forms attached	Five forms attached	Six - Ten forms attached	Eleven or more forms attached	Invalid Forms
IN	19,407	18,266	398	31	7	4	56	39	606
IA	7,715	7,376	139	10	2	0	20	14	154
KS	9,673	9,072	156	9	3	1	26	26	380
KY	10,795	10,272	131	7	2	0	19	18	346
LA	20,915	19,727	480	27	3	0	41	66	571
ME	2,859	2,749	28	1	0	3	6	3	69
MD	19,605	18,286	385	16	12	2	55	47	802
MA	21,681	20,314	395	36	14	4	65	58	795
MI	33,549	31,595	860	57	11	3	76	64	883
MN	15,442	14,442	554	33	4	3	23	32	351
MS	12,188	11,438	291	14	4	0	23	34	384
MO	16,926	16,113	323	19	5	2	22	36	406
MT	2,101	2,021	34	2	0	0	1	1	42
NE	5,442	5,198	110	13	1	0	13	8	99
NV	10,442	9,865	274	12	4	1	27	30	229
NH	3,213	3,022	39	3	3	0	5	2	139
NJ	37,122	34,632	954	72	27	10	130	96	1,201
NM	8,019	7,702	132	7	0	0	17	15	146

State	Number of Continuation forms used	One form attached	Two forms attached	Three forms attached	Four forms attached	Five forms attached	Six - Ten forms attached	Eleven or more forms attached	Invalid Forms
NY	98,744	90,994	3,515	224	61	13	302	212	3,423
NC	27,552	26,004	603	28	8	2	60	68	779
ND	1,319	1,130	17	0	0	0	0	2	170
OH	35,377	33,192	690	32	7	4	68	73	1,311
OK	13,087	12,525	202	9	1	1	20	25	304
OR	15,235	14,544	375	28	5	1	26	21	235
PA	37,775	35,578	777	46	18	4	91	107	1,154
RI	3,425	3,257	41	4	0	0	6	8	109
SC	14,406	13,431	269	11	4	3	33	39	616
SD	1,733	1,657	34	4	1	0	2	1	34
TN	18,472	17,396	346	21	2	2	50	47	608
TX	120,930	113,540	3,136	180	53	6	282	366	3,367
UT	16,691	15,851	548	42	15	3	30	19	183
VT	1,362	1,299	11	3	1	1	3	5	39
VA	23,172	21,984	466	23	11	0	44	43	601
WA	27,101	25,733	690	27	9	1	45	48	548
WV	4,192	4,037	44	1	1	0	6	6	97
WI	15,805	14,282	462	25	8	2	32	38	956

State	Number of Continuation forms used	One form attached	Two forms attached	Three forms attached	Four forms attached	Five forms attached	Six - Ten forms attached	Eleven or more forms attached	Invalid Forms
WY	1,079	1,037	13	0	0	0	3	6	20
PR	25,156	24,107	520	18	13	2	52	94	350

Source: DRF2

Table excludes Hialeah, FL (LCO 2928)

**Appendix O: Distribution of Added and Deleted Addresses in Nonresponse Followup (NRFU)
by State**

State	NRFU Universe		Added Addresses		Deleted Addresses	
	#	%	#	%	#	%
Total						
▶ with Puerto Rico	42,372,965	100.0	688,944	100.0	6,023,232	100.0
▶ without Puerto Rico	41,673,425	98.3	660,151	95.8	5,944,552	98.7
Alabama	839,046	2.0	13,682	2.0	146,582	2.4
Alaska	110,706	0.3	2,916	0.4	16,961	0.3
Arizona	818,468	1.9	12,109	1.8	111,651	1.9
Arkansas	454,673	1.1	8,751	1.3	71,439	1.2
California	4,092,714	9.7	60,472	8.8	531,138	8.8
Colorado	583,193	1.4	8,983	1.3	86,012	1.4
Connecticut	473,774	1.1	6,395	0.9	63,552	1.1
Delaware	140,176	0.3	672	0.1	20,253	0.3
District of Columbia	124,186	0.3	1,196	0.2	17,085	0.3
Florida	2,816,993	6.6	49,615	7.2	341,790	5.7
Georgia	1,280,935	3.0	25,772	3.7	249,233	4.1
Hawaii	207,698	0.5	7,807	1.1	33,437	0.6
Idaho	188,317	0.4	6,486	0.9	29,927	0.5
Illinois	1,705,872	4.0	27,750	4.0	274,858	4.6
Indiana	884,833	2.1	18,341	2.7	131,993	2.2
Iowa	337,374	0.8	6,609	1.0	43,830	0.7
Kansas	369,367	0.9	3,760	0.5	44,125	0.7
Kentucky	649,635	1.5	11,556	1.7	93,606	1.6
Louisiana	810,111	1.9	11,404	1.7	142,985	2.4
Maine	237,280	0.6	3,459	0.5	26,804	0.4
Maryland	747,536	1.8	9,206	1.3	86,178	1.4
Massachusetts	879,213	2.1	12,681	1.8	116,037	1.9
Michigan	1,357,339	3.2	14,301	2.1	179,132	3.0
Minnesota	596,917	1.4	8,498	1.2	75,704	1.3
Mississippi	477,446	1.1	10,391	1.5	75,183	1.2

State	NRFU Universe		Added Addresses		Deleted Addresses	
	#	%	#	%	#	%
Missouri	826,337	2.0	8,940	1.3	117,588	2.0
Montana	127,995	0.3	2,176	0.3	20,260	0.3
Nebraska	201,758	0.5	2,316	0.3	21,179	0.4
Nevada	286,008	0.7	9,384	1.4	23,625	0.4
New Hampshire	180,149	0.4	4,479	0.7	23,218	0.4
New Jersey	1,179,941	2.8	22,066	3.2	157,269	2.6
New Mexico	292,623	0.7	7,705	1.1	43,290	0.7
New York	3,129,981	7.4	48,880	7.1	549,781	9.1
North Carolina	1,394,858	3.3	16,795	2.4	196,763	3.3
North Dakota	84,582	0.2	1,348	0.2	12,786	0.2
Ohio	1,495,048	3.5	14,981	2.2	190,893	3.2
Oklahoma	589,801	1.4	6,681	1.0	71,786	1.2
Oregon	525,075	1.2	11,651	1.7	76,032	1.3
Pennsylvania	1,730,547	4.1	30,655	4.4	268,611	4.5
Rhode Island	159,345	0.4	2,876	0.4	22,300	0.4
South Carolina	810,189	1.9	12,103	1.8	161,487	2.7
South Dakota	85,627	0.2	1,200	0.2	11,768	0.2
Tennessee	948,373	2.2	10,372	1.5	148,825	2.5
Texas	3,177,396	7.5	46,868	6.8	373,190	6.2
Utah	265,864	0.6	4,579	0.7	39,431	0.7
Vermont	107,894	0.3	1,397	0.2	16,804	0.3
Virginia	916,909	2.2	9,252	1.3	101,890	1.7
Washington	935,441	2.2	22,505	3.3	139,328	2.3
West Virginia	323,250	0.8	5,512	0.8	43,287	0.7
Wisconsin	647,615	1.5	11,150	1.6	91,582	1.5
Wyoming	67,017	0.2	1,468	0.2	12,084	0.2
Puerto Rico	699,540	1.7	28,793	4.2	78,680	1.3

Data Source: DMAF and MAF

Table excludes data for Hialeah, FL (LCO 2928)

Appendix P: Distribution of Added and Deleted Addresses in Nonresponse Followup (NRFU) by Address Type for the Mailout/Mailback Area

Address Type	NRFU Universe		Added Addresses		Deleted Addresses	
	#	%	#	%	#	%
Total	33,064,507	100.0	466,776	100.0	4,853,310	100.0
▶ Complete City	32,771,232	99.1	448,190	96.0	4,722,923	97.3
with location description	164,753	0.5	1,340	0.3	77,101	1.6
without location description	32,606,479	98.6	446,850	95.7	4,645,822	95.7
▶ Complete Rural Route	12,428	0.0	0	0.0	2,638	0.1
with location description	12,141	0.0	0	0.0	2,524	0.1
without location description	287	0.0	0	0.0	114	0.0
▶ Complete PO Box	6,708	0.0	0	0.0	2,098	0.0
with location description	5,436	0.0	0	0.0	1,364	0.0
without location description	1,272	0.0	0	0.0	734	0.0
▶ Incomplete Address	271,539	0.8	8,274	1.8	123,558	2.5
with location description	263,977	0.8	1	0.0	118,069	2.4
without location description	7,562	0.0	8,273	1.8	5,489	0.1
▶ No Address Information	2,600	0.0	10,312	2.2	2,093	0.0
with location description	2,299	0.0	9,348	2.0	1,805	0.0
without location description	301	0.0	964	0.2	288	0.0

Data Source: DMAF and MAF

An entry with 0.0 percent indicates the value is less than one-tenth of a percent

Table includes data for Puerto Rico and excludes data for Hialeah, FL (LCO 2928)

Appendix Q: Distribution of Added and Deleted Addresses in Nonresponse Followup (NRFU) by Address Type for the Update/Leave Area

Address Type	NRFU Universe		Added Addresses		Deleted Addresses	
	#	%	#	%	#	%
Total	9,186,008	100.0	220,092	100.0	1,148,106	100.0
▶ Complete City	5,478,904	59.6	136,093	61.8	598,590	52.1
with location description	981,611	10.7	6,745	3.1	107,404	9.4
without location description	4,497,293	49.0	129,348	58.8	491,186	42.8
▶ Complete Rural Route	717,305	7.8	1	0.0	62,162	5.4
with location description	705,619	7.7	1	0.0	60,777	5.3
without location description	11,686	0.1	0	0.0	1,385	0.1
▶ Complete PO Box	336,806	3.7	1	0.0	31,330	2.7
with location description	324,755	3.5	1	0.0	29,724	2.6
without location description	12,051	0.1	0	0.0	1,606	0.1
▶ Incomplete Address	137,676	1.5	14,546	6.6	22,567	2.0
with location description	65,196	0.7	0	0.0	8,385	0.7
without location description	72,480	0.8	14,546	6.6	14,182	1.2
▶ No Address Information	2,515,317	27.4	69,451	31.6	433,457	37.8
with location description	2,514,913	27.4	64,161	29.2	433,285	37.7
without location description	404	0.0	5,290	2.4	172	0.0

Data Source: DMAF and MAF

An entry with 0.0 percent indicates the value is less than one-tenth of a percent

Table includes data for Puerto Rico and excludes data for Hialeah, FL LCO 2928

Appendix R: Distribution of Added and Deleted Addresses in Nonresponse Followup (NRFU) by Address Type for the Urban Update/Leave Area

Address Type	NRFU Universe		Added Addresses		Deleted Addresses	
	#	%	#	%	#	%
Total	122,450	100.0	2,076	100.0	21,816	100.0
▶ Complete City	120,793	98.6	1,999	96.3	21,104	96.7
with location description	906	0.7	5	0.2	296	1.4
without location description	119,887	97.9	1,994	96.1	20,808	95.4
▶ Complete Rural Route	9	0.0	0	0.0	2	0.0
with location description	9	0.0	0	0.0	2	0.0
without location description	0	0.0	0	0.0	0	0.0
▶ Complete PO Box	21	0.0	0	0.0	11	0.1
with location description	21	0.0	0	0.0	11	0.1
without location description	0	0.0	0	0.0	0	0.0
▶ Incomplete Address	1,620	1.3	33	1.6	693	3.2
with location description	1,615	1.3	0	0.0	689	3.2
without location description	5	0.0	33	1.6	4	0.0
▶ No Address Information	7	0.0	44	2.1	6	0.0
with location description	7	0.0	41	2.0	6	0.0
without location description	0	0.0	3	0.1	0	0.0

Data Source: DMAF and MAF

An entry with 0.0 percent indicates the value is one-tenth of a percent

Table includes Puerto Rico and excludes Hialeah, FL LCO 2928