

Handbook for the Quality Process
for the
2008 Census Dress Rehearsal
Assessments and the
2010 Census
Evaluations, Experiments,
Assessments, and Quality Profiles

Decennial Management Division
Version 5.0 – August 15, 2011

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Version	Date	Change	Reason	Location
1.0	1/29/2008	Initial Release		
2.0	10/7/2008	See below		
		Added statement that DMD will not be collecting hard-copy binders.	To make it clear that binders are to be maintained electronically and that hard-copies are at the project manager's discretion.	Step 1.4
		Revised handbook to agree with revised MAS; specifically: <ul style="list-style-type: none"> • Steps 3-5 merged into Step 3 • Step 6 became Step 4 • Step 7 became Step 5 • Steps 8 and 9 merged into Step 6 • Steps 10 and 11 merged into Step 7 • Steps 12-14 merged into Step 8 • Step 15 became Step 9 • Step 16 became Step 10 • Steps 17-19 merged into Step 11 • Steps 20-22 merged into Step 12 • Step 23 became Step 13 • Step 24 became Step 14 • Steps 25 and 26 merged into Step 15 • Steps 27 and 28 merged into Step 16 • Steps 29-31 merged into Step 17 • Step 32 became Step 18 • Step 33 became Step 19 • Step 34 became Step 20 • Step 35 became Step 21 	The QP Handbook was laid out in the order of the MAS steps. Since the MAS was revised, the handbook needs to reflect the revised MAS.	Sections 2 through 5
		Revised contacts	Since Gary Chappell and Sherri Norris are no longer on the project, their names were replaced with Karen Medina and Monique Eleby, respectively. Also, said to send briefing drafts to DMD Planning Coordination Office.	Sections 1.9, Section 2.1, Steps 3 and 4, Section 4.2, Step 13, and Attachment L

Version	Date	Change	Reason	Location
		Added the words “using the appropriate change request form.”	The additional wording was added for clarification.	Section 2.2, second paragraph
		Adding a statement to indicating types of files project managers won’t have to verify.	The additional wording was added for clarification.	Section 4.1, Step 10
		Added statement that the report must agree with the study plan.	Question concerning this was raised at the 2006 Census Test evaluation debriefing.	Section 4.1, Step 11, first paragraph
		Added note to refer to Attachments L and M for assessment content.	Wording was changed to clarify that content is different for assessments.	Section 4.1, Step 11, second paragraph.
		Added references to experiments as well as to evaluations.	Previous wording referred only to evaluations.	Section 4.1, Step 11, Section A, Intro/ Background and Methodology sub-sections and Section B
		Added additional statement to explain limitations.	The additional wording was added for clarification.	Section 4.1, Step 11, Section A, Limitations sub-section
		Added statement that project managers may choose to use hard-copy project binder in addition to electronic project binder.	The additional wording was added for clarification.	Section 4.1, Step 11, Section C
		Added text to Section 5, Closeout	The text for this section was missing from Version 1.0.	Section 5, Steps 19 through 21
		Revised Attachment C	The MAS was revised.	Attachment C
		Revised the standard background for the Dress Rehearsal, removed references to 2010 evaluations and experiments, and revised sections I and VII to agree with new Attachment N.	The Dress Rehearsal background was revised to more accurately state what is now in the Dress Rehearsal. Attachment N was added for 2010 evaluations and experiments. Attachment D was made to agree with changes made for Attachment N.	Attachment D
		Added new attachment for 2010 Census Assessment content	Attachment L covers the assessment content only for the 2008 Dress Rehearsal.	Attachment M
		Added Attachment N	Added an attachment to provide a study plan template for evaluations and experiments.	Attachment N
		Added Attachment O	This attachment corresponds to Step 20	Attachment O
		Revised formatting for the sample report and changed the attachment letter to P	Fixed formatting problems.	Attachment P

Version	Date	Change	Reason	Location
2.1	2/12/09	Added wording to include 2010 Census quality profiles into the QP Handbook	2010 Census quality profiles need to follow the quality process	Changes have been made throughout the handbook. In particular, the following have been changed: <ul style="list-style-type: none"> • Handbook Title • Section 1 • Section 2 • Section 4 • Section 5 • Attachments A, B, C, I, J, K1, K2, and K3
		Revised instructions for title page to exclude the words "Final Report"	Change was requested by DSSD and agreed to by QP Team	Section 4.1, Step 11, Section A
		Revised contacts	Since Monique Eleby is no longer on the project, her name was replaced with Joyce A. Price.	Section 1.9, Section 2.1, Steps 3 and 4 and Section 4.2, Step 13
		Changed Attachment A to Attachments A and B	Clarified items to bring to CIG briefing	Section 2.1, Step 6 and Section 4.2, Step 15
		Changed step number from 16 to 10 in Attachment A	Step number previously wasn't revised to coincide with revised MAS	Attachment A, Section 4.1
		Added sentence and revised previous first sentence in scope section.	Clarified Scope of the Quality Process	Section 1.3
		Combined Attachment D with the former Attachment N to have only one study plan template	Simplified the attachments for the study plan template	Attachment D
		Added a new Attachment N with a sample study plan	Provided a sample study plan	Attachment N
		Revised Software Development Section.	Changed section to agree with what project managers actually do.	Section 3
		Revised instructions for WordPerfect hidden text.	Clarified instructions to agree with WordPerfect, Version X3.	Section 4, Step 11, Section D: Indexing, Embedding and Highlighting Text in a WordPerfect document

Version	Date	Change	Reason	Location
		Added current versions of WordPerfect (WordPerfect X3) and WORD (WORD 2000) for indexing.	Provided WordPerfect and WORD versions to inform project managers; if newer versions are used, project managers may need to modify the instructions or the QP Handbook may need to be revised.	Section 4, Step 11, Section D: Indexing, Embedding and Highlighting Text in a WordPerfect document and Embedding and Highlighting Text in a WORD document
		Added a statement about scanning documents.	Project managers may need to scan some documents to create an electronic file for archiving.	Section 5, Step 19
		Deleted Step 21 from Attachment C and changed Section 5, Step 21, to Section 6.	Step 21 is no longer in the MAS.	Section 5, Section 6, and Attachment C
		Deleted references to the CPEX ESC.	The CPEX ESC is no longer a functioning group.	Section 2 and Section 4.1, Step 11, Section B
2.2	4/20/09	Revised Section 1.2.	Added DMD branch responsibilities.	Section 1.2
		Revised footnote to Attachment A	Clarified note for quality profiles	Attachment A
		Revised labels for Steps 4 and 13	Added PCO to step label	Section 2.1, Step 4, and Section 4.2, Step 13, and Attachment C
		Revised titles for Attachments E through J	Added to whom the emails should be sent	Attachments E through J
		Added paragraph to Section 5	Clarified the two types of data storage that must take place as part of closeout	Section 5
		Revised Step 20.	Clarified what must be stored on the "K" drive.	Section 5, Step 20
		Deleted first sentence of Attachment O.	Revised to agree with archiving process	Attachment O
2.3	6/19/09	Added sentence regarding contractors preparing reports	Added sentence that it is the project manager's responsibility (or the project manager's supervisor's responsibility) to ensure that following the quality process is included in applicable contracts.	Steps 1.1 and 1.2
		Revised staff name	Changed Planning Coordination Office to Program Management Branch.	Steps 4 and 13 and Attachments C, F, and I

Version	Date	Change	Reason	Location
		Changed wording for sending briefing drafts	Deleted naming Karen Medina and Joyce Price and entered the official mailbox addresses for DMD ECB and DMD PMB.	Steps 4 and 13
		Revised wording for scheduling CIG Briefings	Revised wording so that DMD ECB coordinates the schedule for CIG Briefings with the DMD PMB.	Steps 5 and 14
		Revised wording concerning briefing dry runs	A dry run of the CIG briefing with the project manager's division chief is mandatory.	Steps 6 and 15
		Added an additional guideline	Included instruction for writing dollar amounts.	Step 11, Section A, Additional/General Guidelines
		Added Dave Spindel's name	Revised wording so that project managers should send archiving data to Dave Spindel and Jerry Imel.	Step 20
2.4	8/27/09	Added statement to Steps 3 and 12.	Clarified that the QP Reviewer is always included as a critical reviewer.	Steps 3 and 12
		Revised Section 1.2.	Added quality process reviewer responsibilities.	Section 1.2
3.0	6/17/10	Added note to Section 1.2 and revised wording for all references to DMD PMB.	Draft study plans and reports for DMD PMB are to be sent to the DMD – 2010 Planning Coordination mailbox.	Section 1.2 and various other sections
		Added new Section 1.3; all following Section 1 subsections are numbers are increased by 1.	Added definitions for evaluations, experiments, assessments, and quality profiles.	Section 1.3
		Revised section on Quality Standards	Provided the URL for the standards issued in May 2010.	Section 1.9
		Added reference to Attachment T to Section 1.10.	Attachment T provides the Frequently asked questions.	Section 1.10
		Added note to Step 2.	Acronyms in Milestone Schedule should be spelled out if it is the first time they are used.	Step 2
		Revised wording in Step 6.	Made the following changes: -made the dry run optional -changed the CIG briefing from one hour to a half hour -made it optional to bring a copy of the QP Checklist and the Review and Sign-Off Process Checklist.	Step 6

Version	Date	Change	Reason	Location
		Added reference to standard assessment tables and to Attachments Q, R, and S.	Some assessments will require standard demographic and/or address tables. Attachment Q provides the list of assessments, Attachment R provides the sample demographic table shells, and Attachment S provides the sample address table shells.	Step 11, Section A
		Revised Step 11, Section D.	Changed the hidden text instructions for WORD to agree with WORD 2007.	Step 11, Section D
		Revised wording in Step 15.	Made the following changes: -made the dry run optional -changed the CIG briefing from one hour to a half hour -made it optional to bring a copy of the QP Checklist and the Review and Sign-Off Process Checklist.	Step 15
		Revised wording in Step 16.	Deleted the wording for the project manager to prepare a cover memo for the final draft report.	Step 16
		Added Attachment Q.	Attachment Q provides the list of assessments requiring standard tables.	Attachment Q
		Added Attachment R.	Attachment R provides sample demographic table shells.	Attachment R
		Added Attachment S.	Attachment S provides sample address table shells.	Attachment S
		Added Attachment T.	Attachment T provides the Frequently Asked Questions.	Attachment T
4.0	2/25/11	Revised use of Sign-Off Process Checklist.	The Sign-Off Process Checklist will be included with the final draft report.	Section 1.7
		Revised Study Plan Change Control Methodology.	Proposed change request forms will be submitted to the ECB. The EEA OIT will send out a monthly call for changes to research questions.	Section 2.2
		Referenced Attachment U and provided guidelines on including cost information.	Attachment U provides a report template. Cost information is to be provided at the national level only.	Section 4, Step 11
		Provided guidelines for inserting blank pages.	Blank pages (with the notation “This page intentionally left blank.”) must be inserted so that the Table of Contents, Executive Summary, Introduction, and first Attachment/Appendix should always appear on right-facing pages (i.e., odd-numbered pages).	Section 4, Step 11, Section A
		Revised guidelines for Methodology.	Added guidelines for including research questions in Methodology Section.	Section 4, Step 11, Section A

Version	Date	Change	Reason	Location
		Added Key Lessons Learned to Conclusions and Recommendations section heading.	Assessments may have lessons learned rather than Conclusions.	Section 4, Step 11, Section A
		Revised steps for fact-checker.	Fact-checkers are to ensure that research questions included in the study plan are included in the report.	Section 4, Step 11, Section D
		Added Table shells	Draft table shells are provided.	Attachment S
		Added Attachment U	Attachment U provides a report template.	Attachment U
5.0	08/15/11	Deleted the word “pre-identified”	Critical reviewers may not always be pre-identified	Section 1.1, Section 2.1, Step 3, Section 4.1, Step 12, and Attachment A
		Deleted naming Karen Medina and Joyce Price and entered “supervisor or team leader.”	Supervisors and team leaders should identify the critical reviewers for each project.	Section 2.1, Step3
		Added text to be included in 2010 Census assessment reports that have a budget section.	Methods for preparing cost data predate guidelines and best practices.	Section 4, Step 11
		Changed “CIG” to “ESC for 2010 CAR” for reports.	This committee was formed to provide guidance on the results from research and assessments.	Section 4.2, Heading, Step 14 and Step 15, Section 4.3, Step 16, and Attachments A, B, C, D, I, M, and U
		Changed “draft study plan” to “draft report.”	This was an error in the previous version.	Section 4.2, Step 13
		Revised information on report briefings.	Presenters should allow for a 20-25 minute presentation.	Section 4.2, Step 15
		Added information for reports with co-authors from more than one division.	Comments should be coordinated between the divisions and each division should be included in the sign-off process.	Section 4.3, Step 16
		Added 2010 Census Auxiliary or Preliminary Results Sign-Off Checklist.	The purpose of the check-list is to help ensure that 2010 Census related data and results are internally validated and accurate before release to external audiences.	Section 1.7 and Attachment V
		Revised to include all three checklists.	Added information on 2010 Census Auxiliary or Preliminary Results Sign-Off Checklist.	Section 1.7
		Revised the assessments requiring standard demographic tables and added the assessments requiring standard address tables.	The lists were incomplete in the previous version.	Attachment Q

Version	Date	Change	Reason	Location
		Revised the standard demographic table shells.		Attachment R
		Added notes for preparing standard demographic tables and a reference to the notes.	Based on meetings with DSSD programmers and analysts and in consultation with POP and HHES	Section 4.1, Step 11, Section A and Attachment R
		Revised Attachment T.	Added new questions and answers.	Attachment T
		Added a paragraph for data from DID.	Data from DID cannot be put on DSSD's servers.	Section 6
		Delete all reference to using WordPerfect application.	Census Bureau selected Microsoft Office as the standard office application.	Step 11, Step 11, Section D, and Step 16.
		Changed the template cover page for writing reports.	To reflect the 2010 logo and the new Census Bureau brand, that should be used on all reports.	Attachment U

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Handbook for the Quality Process for the 2008 Dress Rehearsal Assessments and the 2010 Census Evaluations, Experiments, Assessments, and Quality Profiles

1 Introduction

The 2010 Census Program for Evaluations and Experiments (CPEX) involves evaluations, experiments, and operational assessments that ultimately evaluate the 2010 Census and inform planning for post-census testing and research. In order to achieve an accurate and complete documentation of the 2010 CPEX, we established an interdivisional Quality Process Team for Evaluations and Experiments which designed a Quality Process for the 2010 CPEX. The Quality Process Team includes staff from the Decennial Management Division and the Decennial Statistical Studies Division. The Quality Process is intended to ensure the accuracy and completeness of 2010 CPEX results, to ensure that answers to the designated research questions provide useful information for understanding the 2010 Census and for planning the 2020 Census, to ensure consistency across report presentations, and to ensure that the 2010 CPEX reports are accurate, complete, and understandable to a Census Bureau audience and to our stakeholders.

The following pages document the Quality Process for the 2010 CPEX, which includes the 2008 Census Dress Rehearsal assessments and the 2010 Census evaluations, experiments, and assessments, with regard to the process for producing quality reports. In addition, 2010 Census quality profiles are covered by this quality process with the exception of study plan briefing activities. For those who participated in the Census 2000 Testing, Experimentation, and Evaluation (TXE) Quality Assurance (QA) Process and/or the Quality Process for the 2010 Census Tests, **please note that there are distinct differences for the Quality Process for the 2008 Census Dress Rehearsal assessments and 2010 Census evaluations, experiments, and assessments. This handbook supersedes any previous Quality Process Handbook.**

Sections 2 through 5 of this document outline the steps involved in preparing the study plan, developing the study methodology, developing any required software, analyzing the data, preparing the evaluation, experiment, assessment, and quality profile reports, and archiving data.

1.1 Responsibility of the Evaluation, Experiment, Operational Assessment, and Quality Profile Project Manager

Every evaluation, experiment, assessment, and quality profile project manager has the responsibility of implementing this quality process as their project progresses through the study plan, the development of the methodology (including change control), specifications, software, analysis, and documentation of results. Note that not all of these may apply to assessments or quality profiles. If the evaluation, experiment, assessment, or quality profile is being prepared by a contractor, it is the project manager's responsibility to include in any applicable contracts that the contractor must follow the quality process guidelines.

1.2 Other Staff Responsibilities

- **Project Manager's Supervisor**

The primary role of the project manager's supervisor in the quality process is to ensure that the project manager applies the quality process to their project. This could include assigning someone else to implement one or more of the steps of this process (for example, verifying and validating production data). In addition, the project manager's supervisor has the responsibility of reviewing and approving various pieces of the project (for example, study plans, specifications, and results). If the evaluation, experiment, assessment, or quality profile is being prepared by a contractor, and no project manager has been assigned when the contracts are written, it is the project manager's supervisor's responsibility to include in any applicable contracts that the contractor must follow the quality process guidelines.

- **Evaluation Coordination Branch – Decennial Management Division (DMD)**

The Evaluation Coordination Branch (ECB) is responsible for managing the planning, development, and implementation of the research and evaluation programs for the decennial census. The staff directs the preparation, review, and analysis of requirements, plans, schedules, procedures, and budgets. The staff provides interdivisional training, guidance, and support for a quality assurance process for research projects. The ECB arranges Census Integration Group (CIG) briefings with the Program Management Branch for assessment, evaluation, and experiment study plans and reports.

- **Program Management Branch - DMD**

The Program Management Branch (PMB) manages the planning, development, and coordination activities for the 2008 Census Dress Rehearsal and the 2010 Census. Staff develops project management processes and provides continuous support to assist Decennial teams to effectively plan and implement census activities. Staff is responsible for scheduling CIG briefings, attending briefings to record notes, and copying project managers on CIG meeting notes on requested revisions to the study plans and reports. (When sending draft study plans and draft reports, send emails to DMD - 2010 Planning Coordination mailbox.)

- **Program Information Branch - DMD**

The Program Information Branch (PIB) is responsible for writing, editing, reviewing, and maintaining key documentation about decennial census programs. The PIB maintains an electronic warehouse of decennial census materials, both current and historical. The PIB coordinates the review of reports by the appropriate DMD Assistant Division Chiefs and DMD Quality Process Reviewer and send comments, if any, to the project manager. The PIB prepares a cover memorandum, issues a memorandum number in the appropriate 2010 Census Memorandum Series, and posts the final report on the DMD website.

- **Quality Process Reviewer**

The quality process reviewer reviews and edits all draft assessment, evaluation, experiment, and quality profile study plans (initial and final drafts) to ensure compliance with the Quality Process Handbook, to verify grammar and spelling, and to ensure conformity with other study plans. The quality process reviewer also reviews and edits all draft assessment, evaluation, experiment, and quality profile reports (initial and final drafts) to ensure compliance with the Quality Process Handbook, to verify grammar and spelling, to ensure accuracy of results (to the extent possible), to ensure that all designated research questions have been answered or accounted for, and to ensure conformity with other study plans and reports.

The quality process reviewer should always be included as a critical reviewer.

1.3 Definitions

- **Evaluations** analyze, interpret, and synthesize the effectiveness of census components and their impact on data quality and coverage using data collected from census operations, processes, systems, and auxiliary data collections.
- **Experiments** are quantitative or qualitative studies that occur during a decennial census in order to have meaningful results to inform planning of future decennial censuses.
- **Assessments** document final volumes, rates, and costs for individual operations or processes, using data from production files and activities; quality assurance files and activities; and information collected from debriefings and lessons learned.
- **Quality Profiles** are reports that provide the results from the quality control program for an operation.

1.4 Scope of the Quality Process

The *Handbook for the Quality Process for the 2008 Dress Rehearsal Assessments and the 2010 Census Evaluations, Experiments, Assessments, and Quality Profiles* applies to all assessments for the 2008 Dress Rehearsal and to all evaluations, experiments, assessments, and quality profiles for the 2010 Census. Within each project, the quality process applies to all work done for each project that isn't production-related. For example, any programming for analysis of data done for an evaluation, experiment, assessment, or quality profile will fall within the scope of this process. This includes programming to produce data files, to merge production data files, or to select a subset of a production data file specifically for an evaluation, experiment, assessment, or quality profile. The quality process applies to specifications and software written to analyze data, not for specifications and software to create production data.

The quality process doesn't apply to Dress Rehearsal and 2010 Census production-related operations. For example, specifications for collecting data using the hand-held computer and software written for unduplication or for the Primary Selection Algorithm are production

related operations that fall beyond the scope of this process. Furthermore, operations or systems specifically designed for an evaluation, but implemented as production, fall beyond the scope of this process. For example, procedures written for an evaluation field followup operation are not covered by this process.

1.5 Project Binders

Each project manager should maintain an electronic or hard-copy binder to collect materials for indexing and fact-checking. Note that fact-checkers may require hard copies of source documents. Hard-copy binders will not be collected and maintained by DMD, as they were in the past. Refer to Section 4.1, Step 11, Sections D and E, for indexing and fact-checking procedures, and to Section 5, Closeout, for information concerning archiving materials.

1.6 Archiving Data

Upon completion of the evaluation, experiment, assessment or quality profile, the project manager will send the materials in their binder in electronic format to Decennial Statistical Studies Division (DSSD) for archiving. In addition to the materials in the binder, all programs written specifically for the evaluation, experiment, assessment, or quality profile and all data must be sent in electronic format to DSSD to be archived. These materials will serve as a resource for future researchers who attempt to recover, understand, or use archived data. Refer to Section 5, Closeout, for archiving procedures.

1.7 Quality Process Steps Checklist, Study Plan/Report Review Checklist, and 2010 Census Auxiliary or Preliminary Results Sign-Off Checklist

Included in this document are three checklists for project managers to use while implementing the quality process.

The first checklist (Attachment A) follows the procedures and is intended to include all steps project managers are expected to implement. If a project manager can't or doesn't need to apply a particular step of the quality process to their project, they should document this occurrence in the Explanatory Notes section found on the checklist. The project manager will be the only individual marking it to attest that an activity occurred.

For those who participated in the Census 2000 TXE quality assurance process and/or the 2010 Census test evaluations and assessments quality assurance process, note that this checklist differs from the ones previously used.

The second checklist, Sign-Off Process (Attachment B), is to be added to the front of the final draft report (ahead of the title page) and is for the project manager's use during the review and sign-off process to ensure that all comments have been received and are accounted for. DMD PIB will remove the Sign-Off Process checklist before releasing the report as final.

The third checklist, 2010 Census Auxiliary or Preliminary Results Sign-Off (Attachment V), is completed when data and results are released outside the Census Bureau. It should be prepared by the project manager or whoever is assigned to fulfill the request.

The purpose of the 2010 Census Auxiliary or Preliminary Results Sign-Off check-list is to help ensure that 2010 Census related data and results are internally validated and accurate before release to external audiences, including special requests from the Director's Office and presentations at professional associations. This check-list should be used for release of 2010 Census data and results, which are classified here either as auxiliary or preliminary. Auxiliary results include quantitative tabulations or metrics pertaining to the 2010 Census that are not affiliated with formal 2010 Census evaluations, experiments, assessments, or Quality Profiles. Preliminary results pertain to the pre-release of data and analyses from 2010 Census evaluations, experiments, assessments, or Quality Profiles that--because of timing constraints--have not been formally presented before the Executive Steering Committee for 2010 Census Assessments and Research (2010 CAR). Use of this check-list does not substitute for full compliance with the Quality Process for Report Development.

In addition, this process helps ensure that all externally released results are maintained in a centralized fashion across all offices that typically provide the results. These offices include, but are not limited to, Decennial Statistical Studies Division, Population Division, Field Division, Geography Division, American Community Survey Office, Decennial Management Division, Center for Administrative Records Research and Applications, Center for Statistical Research and Methods, and Center for Survey Measurement.

The check-list is a tool for the division or office fulfilling the request for the results. The project manager is responsible for obtaining the sign-offs and ultimately transmitting the results to the requester and the Decennial Management Division

1.8 Standard Activities for Each Evaluation Project Schedule

Every 2008 Census Dress Rehearsal assessment and every 2010 Census evaluation, experiment, assessment, and quality profile will have standard activity lines put into the Master Activity Schedule (MAS). These activities will allow functional managers and others to track the progress of individual projects in addition to viewing the progress of the entire 2010 CPEX Program. The standard activities are shown in Attachment C.

As project managers develop project schedules, they may add additional activity lines to help track the progress of their project.

1.9 Quality Standards

Quality standards have been developed that are to be used throughout the Census Bureau. Authors are required to incorporate the guidelines into their report preparations. The Universal Resource Locator (URL) for these standards is:

http://cww.census.gov/msdir/docs/Quality_Standards_2010.pdf.

Contact the Data Integration Division (DID) Quality program staff at DID.quality.standards.list@census.gov with questions regarding the quality standards.

1.10 Who to Contact with Questions

If you have a question regarding the Quality Process, refer to Attachment T, Quality Process Frequently Asked Questions. If the answer to your question can't be found there, contact the Evaluation Coordination Branch (ECB) in the Decennial Management Division (DMD).

Some details of the activities in this handbook are outside the scope of the Quality Process (e.g., how to analyze evaluation data). If you have questions regarding these specific activities, refer them to your supervisor.

2 Study Plan Methodology

The study plan is primarily intended to document the research questions, how they will be answered, what information is needed to answer the questions, and the timeframe for completing the research. The study plan also provides an opportunity for Census Bureau stakeholders to review and comment on the proposed research. If the project manager needs further clarification of a research question, the project manager should bring the issue to the Evaluations, Experiments, Assessments Operational Integration Team (EEA OIT).

For quality profiles, the Quality Control Plans for the individual Census operations serve as the study plans. These Quality Control Plans provide details about what quality control activities are implemented for the operations and an outline of the data and results that will be documented at the conclusion of each operation. There will be one briefing to the Census Integration Group (CIG) on the generic outline for the Quality Control Plans.

2.1 Preparing the Study Plan

Steps 1 through 9, below, correspond to the activity lines in the MAS shown in Attachment C.

Step 1: Prepare/deliver requirements for assessment/evaluation/experiment/quality profile data

The project manager determines what data, operational information, or other materials are required for the evaluation, experiment, or assessment. The requirements could include production and/or evaluation data files, enumerator and/or field office staff debriefing questionnaires, time and motion study results, Master Address File (MAF) extracts, administrative records files, contractor reports, etc. The project manager communicates those requirements to the appropriate division, branch, or staff.

Step 2: Prepare for assessment/evaluation/experiment/quality profile study plan

- The project manager prepares a study plan using the template in Attachment D for 2008 Dress Rehearsal and 2010 assessments and for 2010 Census evaluations and experiments. (The outline for Quality Control Plans will be provided to all quality profile project managers.) Attachment N provides a sample Dress Rehearsal study plan. [Note that the sample study plan in Attachment N was prepared prior to the initial release of the Quality Process Handbook (Version 1.0) and therefore some parts of the sample study plan do not conform exactly to the current version of the handbook.]

The study plan should include the following:

- Dress Rehearsal assessments must include the standard background information on the 2008 Census Dress Rehearsal (See Attachment D). However, instead of future tense, use past or present tense, as appropriate. [Note that the standard Dress Rehearsal Overview has been revised since the sample study plan in Attachment N was prepared.]
- a statement of the question(s) being addressed by the research and why it is important for the 2010 Census and future research

- background related to the research question(s) from previous tests and/or censuses
- relevant assumptions
- a description of the methodology (not all assessments will require a methodology section)
- data requirements
- division responsibilities
- a milestone schedule [Spell out any acronyms that were not previously used (e.g., CIG and PIB).]
- risks and/or limitations
- related assessments, evaluations, or experiments (for the Dress Rehearsal, this means related Dress Rehearsal assessments and for 2010, this means related 2010 evaluations, experiments, or assessments)
- issues that need to be resolved
- references

Step 3: Distribute initial draft of assessment/evaluation/experiment/quality profile study plan to critical reviewers

Using the transmittal email template in Attachment E, the project manager sends the initial draft study plan to his/her supervisor and to the critical reviewers for review. If the project manager doesn't already know who the critical reviewers are, the project manager should check with his/her supervisor or team leader. [Note that the QP Reviewer is always included with the critical reviewers.]

Using the Study Plan Review Checklist (Attachment B), the project manager ensures receipt of comments from all reviewers. Critical reviewers are required to provide feedback on draft study plans. After making a second request to critical reviewers, a non-response will be viewed as full concurrence with the initial draft study plan. If a project manager has concerns about the lack of comments from one or more critical reviewers, the issue should be referred to the project manager's supervisor.

The project manager incorporates and reconciles comments from the review. Project managers are required to address all comments from reviewers, either by incorporating the comments or by documenting why a comment was not incorporated. The latter should be discussed with the reviewer who made the comment. If after reconciling comments, there remains a minority view, the minority view needs to be escalated using the prescribed team process.

Step 4: Send briefing draft of assessment/evaluation/experiment study plan to DMD Evaluation Coordination Branch and DMD Program Management Branch

Using the transmittal email template in Attachment F, the project manager sends the briefing draft study plan to DMD Program Management Branch (DMD - 2010 Planning Coordination mailbox) and to DMD Evaluation Coordination Branch.

Step 5: Arrange Census Integration Group (CIG) briefing for assessment/evaluation/experiment study plan (DMD ECB)

The ECB will coordinate scheduling a briefing with the CIG, an inter-divisional team responsible for 2010 Census program integration, through the Program Management Branch.

Step 6: Brief CIG on assessment/evaluation/experiment study plan

Briefings provide report project managers an opportunity to share the important aspects of their study plans with the CIG. Given the extensive earlier review by critical reviewers, few changes are expected to the study plans at this stage in the quality assurance process.

Project managers should prepare a one or two page handout for the briefing.

Project managers **may** conduct a dry run for the project manager's division chief prior to briefing the CIG. Check with your supervisor for your division's policy.

Project manager(s) should plan for a half hour briefing, which includes time for questions and answers.

- Structure the presentation on the questions your report intends to answer.
- Focus on questions to be answered, methodology and sources of data to answer questions, and information on how the results/questions will inform census planning.
- Questions and answers and other discussion about the report will be handled during the presentation.
- Bring 25 copies of your handout for distribution at the beginning of your briefing.
- It's recommended that project managers also bring three copies of the briefing draft study plan.
- You may want to bring one copy of the Quality Process Review Checklist for 2008 Dress Rehearsal Assessments and 2010 Census Assessments, Evaluations, Experiments, and Quality Profiles (Attachment A of the Quality Process Handbook).
- You may want to bring one copy of the Checklist: Study Plan/Report Review and Sign-Off Process (Attachment B of the Quality Process Handbook).

CIG Reviewers should be prepared to discuss any major comments or questions on the study plan and bring written comments to give to the report project manager at the end of the briefing.

Project manager(s) will be copied on the CIG meeting notes which will document revisions requested to the study plans during the briefing.

The project manager revises the study plan by incorporating comments from the CIG. Project managers are required to address all comments, either by incorporating the comments or by documenting why a comment was not incorporated. The latter should be discussed with the reviewer who made the comment.

Step 7: Prepare final draft for assessment/evaluation/experiment/quality profile study plan and transmit it to DMD Program Information Branch

The project manager first sends the final draft study plan to his/her division chief for approval, using the division's pre-established procedures. Once the division chief approves the final draft study plan, the project manager sends it to DMD Program Information Branch using the transmittal email template in Attachment G.

Step 8: DMD Assistant Division Chiefs (ADCs) review final draft for assessment/evaluation/experiment/quality profile study plan and provide comments to project manager

The DMD PIB will coordinate the review by the appropriate DMD ADCs and the DMD Quality Process Reviewer and send comments, if any, to the project manager. The PIB will also notify the project manager if a revised final draft is required for another round of DMD review. The DMD Quality Process Reviewer will review the document to assure adherence to the quality process standards, using Attachment K1.

If DMD provides comments to the project manager, he/she will incorporate the changes into the final draft study plan and/or otherwise appropriately address the comments. If DMD notifies the project manager that another DMD review is required, the project manager prepares a revised final draft and obtains the division chief's approval for transmittal back to DMD PIB (i.e., repeat Step 7).

After DMD approves the study plan, the project manager prepares the study plan as final. The project manager then obtains the Division Chief's signature (using the division's pre-established procedures) and sends the final study plan in PDF format back to DMD Program Information Branch.

Step 9: DMD conducts final clearance of assessment/evaluation/experiment/quality profile final study plan and issues the memorandum

The DMD PIB coordinates the final clearance, including getting the study plan signed by the DMD division chief. The DMD PIB prepares a cover memo, issues a memo number in the appropriate 2010 Census Memorandum Series, and posts the study plan on the DMD website.

2.2 Study Plan Change Control Methodology

At various times throughout the assessment, evaluation, or experiment project life cycle, a project manager may realize that he or she cannot answer an intended research question or needs to re-word, change, or delete a research question or suggests adding a research question. If a

project manager wants to make a change to the research questions once the study plan is final but before analysis has begun, the project manager documents the proposed change using the appropriate change request form and submits it to the Evaluation Coordination Branch (ECB).

In addition, the Evaluations, Experiments, and Assessments Operational Integration Team (EEA OIT) will send out a monthly call for changes to research questions (deletion/addition of questions, changes to questions). The ECB will create a change request for all question changes received each month. The EEA OIT chairs will make an initial decision on approving/disapproving the question changes. For questions involving increased costs/resources, the EEA OIT will elevate the change request to the Census Integration Group (CIG) for approval/disapproval.

If a research question cannot be answered because of a change to a production operation or process, a change request will be generated by and escalated from the appropriate Dress Rehearsal or 2010 Census team (Integrated Product Team (IPT), Integrated System Team (IST), or Operational Integration Team (OIT)). In this scenario, the change request documentation needs to reflect the study plan as an affected document. If a research question cannot be answered because of other reasons (such as insufficient or corrupt data, attrition issues/report responsibilities, or competing priorities with census production needs), the change request will be generated by and escalated from the EEA OIT.

- 2.2.1 The project manager and appropriate Dress Rehearsal or 2010 Census team ensures that all appropriate groups are informed of the proposed change, in order for the Change Control Board to have the input needed to make a decision.
- 2.2.2 The responsible project manager, Dress Rehearsal or 2010 Census team submits the change request to the EEA OIT and sponsors the change.
- 2.2.3 If the Change Control Board **approves** the change, the project manager or team implements the change. The project manager doesn't need to update the study plan. However, the assessment, evaluation, or experiment report must reflect the change and indicate how it differs from the study plan.

If the Change Control Board **doesn't approve** the change, the project manager doesn't need to update the study plan. However, the assessment, evaluation, or experiment report must reflect the impact this decision has on answering the affected research question(s).

3. Programming Code Review¹

- 3.1 The project manager develops, reviews, and validates the code. Note: Examples of review and validation of code are checking output by examining control counts and reviewing the universe to ensure that it's correct.

¹ This section assumes that the project manager is responsible for developing the code. If someone other than the project manager develops the code, specifications are required. A walkthrough of the specifications and a walkthrough of the code are also required.

- 3.2 An independent reviewer examines and validates the code. To identify a resource for the independent review, the project manager should either contact their supervisor or their IT support staff.
- 3.3 The project manager or the project manager's supervisor reviews the results of the independent review and approves changes suggested by the independent reviewer.
- 3.4 The project manager incorporates comments from the independent review.

4. Analysis

4.1 Prepare the Initial Draft Report

Steps 10 through 12, below, correspond to activity lines in the MAS shown in Attachment C.

Step 10: Receive assessment/evaluation/experiment/quality profile data

Upon receipt of evaluation, experiment, assessment, or quality profile data files, the project manager should verify and validate the accuracy of the data, statistical concepts, and key concepts. Project managers are responsible for verifying and validating the accuracy of data files used to perform their analysis, with the exception of any files created by a decennial organization for widespread use (e.g., Master Address File (MAF), Decennial Response File (DRF), Census Edited File (CEF), Census Unedited File (CUF), etc.). Those large files, which are primarily created for corporate use, will be verified and validated by the appropriate decennial organization. If the data files are not acceptable, the project manager should refer the issue to the programmer or to his/her supervisor.

Step 11: Prepare initial draft of assessment/evaluation/experiment/quality profile report

The project manager conducts analysis and prepares results. The project manager and/or the project manager's supervisor should ensure that the report agrees with the study plan.

Use the following guidelines for preparing reports. Prepare the report, using the format in Attachment U, 2010 Census [Evaluation, Experiment, Operational Assessment, or Quality Profile] Report. [Note that the "Record of Document Changes" should only be used if the final report needs to be revised.] Refer to Attachments L and M for any differences that are required for assessment reports. The guidelines are intended to provide a consistent application of style for all 2010 CPEX evaluation, experiment, assessment, and quality profile reports. Consistent style, accurate punctuation, and good word choices in writing enhance the reports for the 2010 CPEX. The report format guidelines were developed to ensure a consistent level of quality and content across final products of the 2010 CPEX. They are also based on frequently made errors in Census 2000 and 2010 Census test reports. Use the tenth edition of *The Gregg Reference Manual* (the U.S. Census Bureau's official style manual) for specific information on grammar, punctuation, and other general writing information. DMD and DSSD should have copies of the tenth edition of *The Gregg Reference Manual*. Project Managers from other divisions can

contact DMD or DSSD for a copy or request that their division purchase a copy. (Attachment L provides the content for Dress Rehearsal assessments, Attachment M provides the content for 2010 Census assessments, and Attachment P provides an example of a report.)

For any cost information/analysis, authors should provide results at the national level only. Detailed cost information should not be included in the assessment report.

The following text should be added to any 2010 Census assessment report where Cost and Progress data provide the official program costs. It should be included in the section that covers the budget variance (expected versus actual) comparison.

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

Based on your preference, this caveat can be a footnote or placed within the budget section. If the assessment does not contain a budget section or one that relies on Cost and Progress data, the caveat does not have to be incorporated into the report.

There will be a generic outline for quality profiles, which will lay out what is expected to be in the profiles. The outline will be provided directly to all quality profile project managers.

Use Times New Roman, 12-point font. (Headings may be in a larger font.) Microsoft Office is the Census standard application. Use spell checker before distributing drafts and final reports.

Define/spell out acronyms the first time they are used, followed by the acronym in parentheses if the term is repeated. (The acronym is unnecessary if the term is not repeated.) Make sure that the full spelling for the acronym agrees with the spelling in the DMD Glossary. See <http://cww2.census.gov/glossary/>.

Step 11, Section A: Report Format Guidelines:

Title Page - Type identifying information and the census logo in the format shown in Attachment P. Include the logo only on the title page (not on every page of the report). Insert the appropriate term (Initial Draft Report, Briefing Draft Report, or Final Draft Report) for each version of the report. Note that the final version of the report should not have any of these terms (i.e., it should not say Final Report). However, if there is a need to revise a report after it has been issued as final, insert the term Revised Final Report. Include the following quality process statement as shown in Attachment P: "Census Bureau standards and quality process procedures were applied throughout the creation of this report."

Blank Pages – The Table of Contents, Executive Summary, Introduction, and first Attachment/Appendix should always appear on right-facing pages (i.e., odd-numbered pages). Therefore, you may need to insert a blank page with the notation “This page intentionally left blank.” before one or more of the above mentioned sections.

Table of Contents - Include all headings down through the N.n level (e.g., include Section 2.3, but do not include Section 2.3.2). Never have a section 1 without a section 2 (or, more generally, a section n.1 without a section n.2). Make sure that all section headings agree with the wording of headings in the body of the report.

List of Tables - Start at the top of a new page. Include table numbers, table titles, and page numbers. If you also use Figures in your report, include a separate **List of Figures**. Make sure that the table (and figure) titles are the same here as in the body of the report. You should never have a Table 1 without a Table 2 or a Figure 1 without a Figure 2.

For assessments that require standard demographic tables and/or address tables, include them in the list of tables.

Executive Summary – Prepare the Executive Summary so that it provides a comprehensive summary of the report for anyone that doesn’t read the entire report.

- Start at the top of a new page.
- Include limited introduction, background, and methodology, as necessary.
- Focus on your main results and recommendations.
- Include the high-level research question(s) and the answers to the question(s). That is, include questions 1, 2, 3, ..., but questions 1a, 1b, etc. do not need to be included.
- Use the full citation if a reference is cited.
- Don’t include any information in the Executive Summary that isn’t also in the body of the report.
- Don’t use (or limit the use of) acronyms. Acronyms in the Executive Summary should only be used when the full spelling is very lengthy (e.g., MAF/TIGER) or when the acronym is commonly known (e.g., USPS). Always define acronyms the first time they’re used in both the Executive Summary and in the body of the report.
- Present recommendations in bold font so they stand out. Begin each recommendation with a verb (e.g., **Improve the process of identifying and removing duplicates.**).
- Don’t number recommendations (use bullets instead), unless there is a priority order.
- Use lower case Roman numeral page numbering through the Executive Summary.

Introduction/Background – Start this section at the top of a new page (Page 1). Depending on your report and the amount of information you wish to provide, this may be one section or two separate sections. Put your evaluation, experiment, assessment, or quality profile in context. Describe what you are evaluating and your objectives. Reference earlier tests and/or censuses, if necessary. Review relevant literature. Discuss census operations and your analysis in past tense.

Include the 2008 Dress Rehearsal standard overview information in all Dress Rehearsal assessment reports. (See Attachment D.) However, instead of future tense, use past or present tense, as appropriate. [Note that the standard Dress Rehearsal Overview has been revised since the sample report in Attachment P was prepared.]

Methodology - Explain your evaluation or experimental methods and, if useful, census methods. Use past tense. Make sure readers can tell evaluation methods from census methods. Authors may either list all questions and the method associated with answering the question as individual subheadings or in a chart.

Limitations - Include problems or deviations from planned operations that affect your results. Also, include aspects of the assessment/evaluation/experiment/quality profile report that may influence or adversely affect the ability to generalize or interpret results.

For the **Dress Rehearsal only**, include the following two limitations in all reports:

The 2008 Census Dress Rehearsal results are based on two sites that were purposely selected and cannot be generalized to the entire U.S.

The 2008 Census Dress Rehearsal was not conducted in a decennial census environment and therefore results may not replicate the results to be obtained in the 2010 Census.

Results - Present general results, then explain, and then show any supporting tables. Explain what your numbers mean, to keep readers from wondering “So what?” Each question from the study plan should be answered. If there are topics that need to be addressed in the results section that don’t have a specific question outlined, authors should state the topic in the form of a question; for example, for a schedule topic, “What were the planned and actual start and finish dates for the operation?”

Tables - All tables should be numbered and titled. However, if there is only one table in a report, do not give the table a number. In general, tables aren’t necessary in the Executive Summary. If there is one table in the Executive Summary, do not number it. If there are two or more tables in the Executive Summary, label the tables in the Executive Summary with numbers beginning with ES-1. Then begin numbering tables in the report with Table 1.

Provide an explanation for all tables. Don’t include a table without text to explain it. There should be consistency between the data in the table and the reporting of data in the text. For example, if the text reports percents, the percents should be shown in the table. Within each

section, it is preferable to use the same number of decimal places in text and tables. However, in some cases, it is okay to round numbers/percents in the text to make it easier to read and understand, as long as all numbers/percents are rounded to the same number of decimal places.

- Include the Table Number and Name above the table.
- Label all rows and columns. Row labels should be left-justified. Column headings may be either left-justified or center-justified.
- Numbers in columns must be aligned on the decimal point or on the unit's digit for whole numbers.
- Use the same number of decimal places for all entries within a column. In tables where percents are carried to one decimal place, show the total as "100.0%" (not as 100%).
- Use Times New Roman font.
- Use horizontal "single" lines only. When there are multiple sets of columns, include a narrow, empty column to break up the text and/or numbers.
- Tables may be either portrait (preferable) or landscape (less desirable), but must fit on only one page. If the table were to start too far down on a page to fit the entire table on one page, place the entire table on the next page. If you need more than one page because the table is too large for one page, place the table in an appendix.
- If you must use abbreviations in a table (usually to save space) that aren't common abbreviations and/or haven't been defined in the report, use a footnote to define the abbreviation.
- Don't leave it up to the reader to figure out if "n/a" means "not available" or "not applicable." Use a footnote to define which one you mean.
- If applicable, use bold font for totals.
- If applicable, indicate significant differences.
- Include the source of data below the table.
- For the **Dress Rehearsal only**, don't include totals across the two sites unless they provide meaningful information. (For example: Total processing data are not necessarily site specific and may be useful to include. Field listing or enumeration data are usually site specific and therefore a total for the two sites is not useful.)

Use the table format shown in Attachment P.

Some assessments require standard demographic tables and/or address tables. Refer to Attachment Q for a list of assessments that require these tables and to Attachments R and S for sample table shells. Following the table shells in Attachment R, are notes about the inclusion of the Standard Demographic Tables. Refer to these notes when preparing the tables.

Key Lessons Learned, Conclusions, and Recommendations - First present conclusions and then recommendations. Recommendations are easier to identify when each recommendation begins with a verb. Present recommendations in bold font so they stand out. Don't number recommendations (use bullets instead), unless there is a priority order. Conclusions and/or recommendations may not be appropriate for all assessments or quality profiles.

References - Include all documents you cited in the report. List references in alphabetic order by author, then by year (and letter, if appropriate). Use the same format for each reference. Follow *The Gregg Reference Manual*, with one exception. Include the year issued in parentheses after the author(s)' name(s). Also, if there is more than one reference by the same author(s) in the same year, assign a, b, c, ... to distinguish between them. (Letters should be assigned in chronologic order. That is, a report issued in February 2007 would be 2007a and a report issued in March 2007 would be 2007b.) This will help when citing references in the report. Refer to the reference section in Attachment P for examples.

Note that most of your references will follow Section 1532, Report, or Section 1533a, Letter or Memo, in *The Gregg Reference Manual*. See examples below:

Section 1532 Report

Name of author and year, "title of report," author's company or sponsoring organization, place, date, page number.

Example:

Zajac, Kevin J. (2003), "Census 2000 Evaluation B.1.a, Analysis of Imputation Rates for the 100 Percent Person and Housing Unit Items from Census 2000," U.S. Census Bureau, September 25, 2003, page *vi*.

Section 1533a Letter or Memo

Name of Author and year, "subject line" [if appropriate], type of document, date.

Example:

Waite, Preston, J. (2007), "Decision to Enumerate Federally-Affiliated Americans Living Overseas in the 2010 Census," 2010 Decennial Census Program Decision Memorandum Series, No. 16, January 17, 2007.

Attachments and/or Appendices - Include any lengthy explanations or tables that would clutter the main part of your report in an attachment or an appendix. If there is only one attachment or appendix, don't label it with a number or letter (i.e., refer to it as "the attachment" or "the appendix"). All appendices and/or attachments should be referenced in the report.

If multiple tables are included in an attachment or appendix, number the tables with a number preceded by the attachment/appendix letter (e.g., if Appendix A has four tables, they should be labeled A1-A4). If there is only one table in an attachment or appendix, it shouldn't have a number.

Additional/General Guidelines – These guidelines were compiled based on frequently occurring errors in the Census 2000 evaluation reports and in the 2010 Census test reports. [Note: Use these guidelines, even if they are inconsistent with *The Gregg Reference Manual*.]

- Numbers at the beginning of a sentence should always be spelled out, including numbers at the beginning of a bullet if the bullet is a whole sentence, rather than a phrase. For example: “• Twenty-one percent of the returns came in during the first week.” or “• 63.3 percent occupied.”
- Numbers one through ten should be spelled out in text. However, time, measurements, dollars, and percents use numbers, not words.
- Always spell out the word “percent” in text instead of using the percent symbol (%).
- Never have a section heading at the bottom of one page and the text for that section on the next page.
- Be consistent throughout your report. For example, the following should be consistent:
 - Spacing between lines and bullets;
 - Spacing between words (there should be one space between words, two spaces between sentences, and two spaces after a colon);
 - Spelling (e.g., hand held, handheld, or hand-held); and
 - Section/subsection headings (that is, use the same font size, bold or not bold, and indentation for all headings of the same level).
- Use the same number of decimal places within a sentence (preferably within a paragraph).
- When listing two items or connecting two parts of a sentence with the word “and” (or “or”) do not use a comma before the word “and” (e.g., a and b). When listing three or more items use a comma before the word “and” (e.g., a, b, and c).
- Periods and commas go inside quotation marks. Refer to *The Gregg Reference Manual* to determine whether other punctuation marks go inside or outside quotation marks.
- Use periods and a comma with “i.e.,” and “e.g.,” (that is, don't use “eg.” or “e.g.”).

- The word “data” should always be used as a plural noun, with a plural adjective (e.g., these data) and/or with a plural verb (e.g., data are).
- Use the accepted decennial spelling for “Nonresponse Followup” and “Mailout/Mailback.”
- Use “affect” and “effect” correctly. (*Affect* is a verb meaning to influence. *Effect* is a noun meaning result or a verb meaning to bring about, to accomplish.)
- Do not refer to the Census Bureau as the Bureau or the BOC. Use U.S. Census Bureau on the first usage.
- Always use periods in “U.S.”
- Use the official program names; that is, use “2008 Census Dress Rehearsal” or “2010 Census.” Also, refer to 2000 as “Census 2000.”
- Use the official 2008 Census Dress Rehearsal site names: “San Joaquin County, CA” and “Fayetteville and Eastern NC.”
- Do not use M for millions or K for thousands, especially when stating dollar amounts. For example, use either 12 million dollars or \$12,000,000 (not \$12M). Of course, if the dollar amount is at the beginning of a sentence, spell out the entire amount (e.g., Twelve million dollars).

Step 11, Section B: Changes to the Research Question(s):

If the evaluation or experiment project manager is in the analysis stage and realizes that she or he can’t answer an intended question, the project manager should inform the operational customers of the impact of not answering a research question. (Note: No revision to the study plan is necessary at this stage of the evaluation or experiment project. All efforts of the project manager should be focused on completing the analysis and not be diverted to update the study plan.) The report must reflect the impact of not answering a research question.

Step 11, Section C: Compile sources and index initial draft of report

The project manager compiles all sources needed to prepare results. The project manager indexes results. All source materials and indexed documents will eventually need to be stored in the electronic project binder, but project managers may choose to also use a hard-copy binder, as necessary, during their analysis and writing activities. As previously noted, fact-checkers may require hard copies of source documents.

The process of indexing provides specific references for each fact, number, percentage, or other information in the report. By identifying the exact source of information in the report,

researchers and managers can answer questions related to the research and can also trace the source of the information in the report.

Indexing goes beyond the creation of references, citations, and a bibliography and serves a very different function. References are used to cite the source of information in a very general manner. Indexing is used to ensure that specific information is transferred correctly from the source document to the report. The process requires that project managers actually provide the sources/worksheets (or just appropriate pages, if source documents are lengthy) from which the information that appears in their report was obtained. The process of indexing further differs from referencing in that a project manager will create links to sources that aren't traditionally included in footnotes or a reference section, such as computer output and email messages. Project managers and other staff members have found that indexed reports are helpful in quickly identifying the origin of its information. Having indexed reports facilitates answering inquiries that require a speedy turnaround, especially if the project manager no longer works at the Census Bureau or is no longer responsible for the project. Indexed reports also may be valuable resources to project managers working on future censuses or tests.

During the process of indexing a report, the project manager may catch errors in the transfer of information from the source document to the final report. For example, a SAS output table may say that the response rate for a survey is 58.4 percent, but when typing the report the number was mistakenly entered as 54.8 percent. An indexed report allows another staff member (i.e., someone other than the project manager) to conduct an independent fact-checking review.

Step 11, Section D: Indexing

Preparing to Index

Do not wait until your report is completely written to begin indexing. Project managers need to collect all documentation that can/will be used as a source of information in the report. A complete and easily accessible file of sources will expedite linking the report to its sources.

How to Index

The following sections divide the process of indexing into two pieces: gathering sources and linking the report to its sources.

Gathering Sources

Project managers should gather all source documents and place them in a binder. If the documents are lengthy, then just the relevant pages from those documents should be included along with the document's title page. Tips regarding source documents are:

- If possible, use one large binder for all source documentation and reviewed report drafts. However, use more than one binder, if necessary.

- Sources for evaluation reports include, but are not limited to a previously published report, a final internal memorandum or report, the hard copy of a computer program or computer output, or a printed copy of an email message. All sources should be clearly labeled (e.g., date and author).
- Project managers must make decisions about the quality of their sources. Ensure, to the extent possible, that the author of the source is a reputable authority on the topic and that the information is current.
- Concerning email messages:
 - What is the authority of the author of the email message? Email messages from executive staff members, division chiefs, or other known experts are acceptable sources.
 - Is the author of the email message aware that the information they are providing will be used in an evaluation report, most of which will be released to the public? If using an email message as a source, project managers are responsible for confirming the accuracy of the information contained in the message with the author and alerting them that the information they are providing will be included in an evaluation report.

The same guidelines apply for in-person or telephone conversations, except that the project manager must provide written documentation of the conversation that will be used as the source document.

- Generally, project managers should not use sources that are marked draft, because there is a chance that the information contained in the draft may change as work on the report continues and as it undergoes review. However, there are occasions when the only source available is labeled draft. If this occurs, project managers should always find out the reason why the source is marked draft, in addition to determining if the information in that draft report is stable. Project managers should also, if possible, contact the author of the draft report to inform them that their draft report will be used as an official source of an evaluation report. Finally, project managers must always provide a written justification for the use of a source document marked draft. This justification should be attached to the source document.
- Assign a number to each source document, and ensure that the pages of each source document are numbered, even if project managers have to write them in by hand. Assign the number 0 (zero) to your own report. This will help when indexing the executive summary to the body of the report.

Linking the Report to Sources

Before examining the nuts and bolts linking facts to their sources, we will briefly look at the kinds of statements for which this will/will not need to be done. Project managers do not need to

create citations for well known statements. For example, there are statements that are widely known such as, “Every ten years the U.S. Census Bureau conducts an actual enumeration of the population of the United States.” When deciding what to index, project managers need to focus on statements drawn from the source materials and the information that might tend to attract questions from the Executive Staff or the public. All calculations should have references to the source (include worksheets or computer output, if necessary). This part of the process relies most heavily on the professional judgment of the project manager. Common sense should always be the project manager’s guide. If there is any doubt as to whether a statement should be indexed, the project manager should always err on the side of caution and link it to its source.

Because of the requirement to electronically archive source documents, whenever possible referencing information on the source documents should be electronically indicated to minimize the need for scanning. If the source document is in Word or WordPerfect, use the same approach as for indexing (shown below). Otherwise, you may need to manually mark the source documents and scan them for archiving.

Reference the source of statements of fact or calculations in the body of the report and the executive summary by electronically embedding and highlighting notes. There are three components:

- An assigned number of the source document.
- The source document page number on which the information can be found.
- An assigned reference number. The reference number is designated by the project manager to each fact/statement to aid the fact-checker in quickly finding the cited information on the given page of the source. Reference numbers should be assigned sequentially within source. The project manager should enter the reference number of the note beside the corresponding information in the source document. Each reference number can be preceded by an “R.”

Examples: (2, page 5, R1)

In the above example, the cited fact can be found in source document 2, on page 5. When the fact-checker turns to page 5 of the source, he/she should look for #1 or R1. This will indicate where on the page the information can be found.

If the link between data in a report and the source is not a literal transcription, but more indirect, the project manager should produce a simple worksheet indicating the link. For example, if a source document lists six items, not totaled, and the report provides the total, the project manager should number the items in the source document and write in the total. Remember, the idea is for the project manager to make it obvious to the fact-checker how they arrived at a particular figure.

Project managers should index information in the executive summary to appropriate statements in the body of the report. The statements in the body of the report will, in turn, be indexed to the actual source documents. This technique will help assure that there isn’t information in the

executive summary that isn't in the body of the report and that information in the executive summary agrees with information in the body of the report. The same applies to information in the Summary and/or Conclusions section of the report.

Project managers must index any information added or altered in their report throughout the Quality Process (such as after incorporating comments).

Embedding and Highlighting Hidden Text in a **WORD** Document (WORD 2007)

To hide text:

Select the text or graphic you want to hide.

Click the arrow (lower right-hand corner) on the Font toolbar.

Click "Hidden" under Effects

Highlight the hidden text by:

Select the text or graphic you want to highlight.

On the Font toolbar, click the highlight tab. (Make sure a color is selected.)

To view hidden text:

Click the "Customize Quick Access Toolbar" (∨) at top left of screen.

Click "More Commands."

Click "Display."

Click "Hidden Text."

Step 11, Section E: Fact-Checking

Conduct fact-checking for initial draft of report

Fact-checking is required to ensure that all numbers and statements have been correctly included in the report. Examples include: ensuring that numbers in tables match the corresponding numbers in the text, that numbers haven't been transposed, and that statements taken from another document are correct and did not change the meaning of the original document.

The project manager and/or the project manager's supervisor should identify a staff member to conduct fact-checking. The person who has been pre-identified to conduct fact-checking, fact-checks the results. At the same time, the project manager's supervisor and any others in the project manager's division can conduct an internal review of the initial draft.

Project managers should provide the fact-checker with the following: Initial Draft with indexing hidden, Initial Draft with indexing revealed, and all source documents used to prepare the Initial Draft.

Listed below are steps each fact-checker should follow:

- Be familiar with the indexing procedures in this Quality Process Handbook.
- Determine whether there are any statements that should be indexed to their appropriate source document that are **not** in the current indexed version. Fact-checkers should clearly identify these statements for the project manager and indicate that they must be indexed.
- Determine the validity of each source document. If there is any doubt about the validity of a source document, ask the project manager to verify the source.
- If a source document is marked draft, then review and concur with the project manager's justification for using a draft document as a source.
- Ensure that all sources are clearly labeled (e.g., date and author).
- Check each indexed statement's source documentation to ensure that the information in the source is accurately presented in the report. Look for transcription accuracy and whether limitations or special definitions from the source are noted in the report.
- Ensure data in tables agree with data in text. Ensure that data in columns/rows add to stated totals.
- Ensure that data/statements/results in the Executive Summary agree with those in the body of the report. Fact-checkers should fact-check the Executive Summary after the body of the report to ensure the content and logic are intact.
- To the extent possible, ensure that the report is understandable by a non-Census Bureau, non-technical audience.
- Ensure that the research questions included in the study plan are also included in the report. Any deleted, new, or revised questions must include an explanation for the change.
- Note any concerns, such as "need to add statement of data limitations" or "transcription inaccurate" and submit them to the project manager upon completion of the review.
- Depending on whether there were any deficiencies noted and/or if the project manager made any significant changes to the report, you may be asked to conduct a second fact-checking of the report.

Notes for the project manager concerning fact-checking:

- Project managers (or anyone working closely with the project manager on the whole report or on a specific part of the report) cannot conduct fact-checking on their report. The project manager's supervisor should not fact-check reports for their staff. Co-workers not involved in the project or supervisors not responsible for the project are appropriate fact-checkers. (Exception: When reports are prepared by two or more project managers and each project manager prepares a specific section of the report, they may fact-check each others' sections as long as an independent fact-checker conducts the fact-checking on shared sections, such as the Executive Summary and Conclusions.)
- Fact-checking is required after the initial draft is prepared, but before it is distributed. Fact-checking may also be conducted in the middle of analysis. This is optional, but it is recommended for complex projects. An additional fact-checking should be conducted if significant changes have been made after the last fact-checking. It is at the project manager's discretion, along with his/her supervisor, to determine what constitutes a significant change. However, a few guidelines for what constitutes a significant change are: if any new source has been used, if any source that was previously a draft has now become final, or if any facts/numbers/percents/tables/etc. have been added to the report. If the only change was to delete text or a table, another fact-checking doesn't need to be conducted.
- If another round of fact-checking is required, the project manager is responsible for notifying the fact-checker. The project manager should provide information to the fact-checker so they will recognize the changes that necessitated the additional fact-checking.
- Project managers are responsible for resolving all discrepancies resulting from fact-checking. The fact-checker is not responsible for going to other reference materials or resource persons to resolve problems.

Step 12: Distribute initial draft of assessment/evaluation/experiment/quality profile report to critical reviewers

Project managers should have critical reviewers for each assessment, evaluation, experiment, and quality profile. [Note that the QP Reviewer is always included with the critical reviewers.] Once the initial draft of the report is ready for distribution outside of the project manager's division, the project manager should send the report to his/her supervisor and to the critical reviewers, using the transmittal email template in Attachment H.

Using the Report Review Checklist (Attachment B), the project manager ensures receipt of comments from all reviewers. Critical reviewers are required to provide feedback on draft reports. After making a second request to critical reviewers, a non-response will be viewed as full concurrence with the initial draft report. If a project manager has concerns about the lack of comments from one or more critical reviewers, the issue should be referred to the project manager's supervisor.

The project manager incorporates and resolves comments from the initial draft review. Project managers are required to resolve all comments from reviewers, either by incorporating the comments or by documenting why a comment was not incorporated. The latter should be discussed with the reviewer who made the comment. If in reconciling comments there remains a minority view, the minority view needs to be escalated using the prescribed team process.

4.2 Brief Executive Steering Committee (ESC) for 2010 Census Assessments and Research (CAR)

Steps 13 through 15, below, correspond to activity lines in the MAS shown in Attachment C.

Step 13: Send briefing draft of assessment/evaluation/experiment/quality profile report to DMD ECB and DMD PMB

Using the transmittal email template in Attachment I, the project manager sends the briefing draft report to DMD Program Management Branch (DMD - 2010 Planning Coordination mailbox) and to DMD Evaluation Coordination Branch.

Step 14: Arrange ESC for 2010 CAR briefing for assessment/evaluation/experiment/quality profile report

The ECB will coordinate scheduling a briefing with the ESC for 2010 CAR, through the Program Management Branch.

Step 15: Brief ESC for 2010 CAR on assessment/evaluation/experiment/quality profile report

Briefings provide report project managers an opportunity to share the important aspects of their reports with the ESC for 2010 CAR. Given the extensive earlier review by critical reviewers, few changes are expected to the reports at this stage in the quality assurance process.

Project managers should prepare a one or two page handout for the briefing.

Project managers **may** conduct a dry run for the project manager's division chief prior to briefing the ESC for 2010 CAR. Check with your supervisor for your division's policy.

Project manager(s) should plan for a 20-25 minute presentation, not including time for questions and answers.

- Prepare approximately 15 to 18 slides.
- Provide *brief* background information and then focus on results, limitations, and recommendations and show how the intended questions for the report were answered.
- Structure the presentation of the results and recommendations of your report around the questions your report was intended to answer.

- Questions and answers and other discussion about the report will be handled during the presentation.
- Bring 25 copies of your handout for distribution at the beginning of your briefing.
- It's recommended that project managers also bring three copies of the briefing draft report.
- You may want to bring one copy of the Quality Process Review Checklist for 2008 Dress Rehearsal Assessments and 2010 Census Assessments, Evaluations, Experiments, and Quality Profiles (Attachment A of the Quality Process Handbook).
- You may want to bring one copy of the Checklist: Study Plan/Report Review and Sign-Off Process (Attachment B of the Quality Process Handbook).

ESC for 2010 CAR Reviewers should be prepared to discuss any major comments or questions on the report and bring written comments to give to the report project manager at the end of the briefing.

Project manager(s) will be copied on the ESC for 2010 CAR meeting notes which will document major action items, issues, and/or decisions, including approval of the report. Minor grammatical or other minor adjustments should be documented by the project manager during the briefing.

The project manager revises the report by incorporating comments from the ESC for 2010 CAR. Project managers are required to address all comments, either by incorporating the comments or by documenting why a comment was not incorporated. The latter should be discussed with the reviewer who made the comment.

4.3 Prepare the Final Report

Steps 16 through 18, below, correspond to activity lines in the MAS shown in Attachment C.

Step 16: Prepare final draft of assessment/evaluation/experiment/quality profile report for review and transmit it to DMD PIB

After comments from the ESC for 2010 CAR briefing are incorporated, the revised report is now considered to be a final draft. The project manager needs to determine if any changes have been made that affect the indexing and fact-checking. If so, the revised material needs to be indexed and fact-checked. The project manager prepares the final draft report for his/her supervisor and division chief to approve.

For those reports with co-authors from two or more divisions, each division should be included in the signoff process. **For example**, if the final draft is prepared by DMD (which includes input

and comments from DSSD and DMD co-authors), the DMD project manager sends the report to Program Information Branch (PIB) for DMD ADC review and to the appropriate DSSD ADC for review. Comments from all ADCs should be shared, incorporated, and agreed upon between the co-authors.

Once approved by the project manager's division chief, the project manager sends the final draft report in Word to DMD PIB for final approval and distribution using the email transmittal template in Attachment J. [That is – Do NOT send the final draft report to DMD in PDF format.] A Word file is required for the Quality Process review.

Step 17: DMD Assistant Division Chiefs (ADCs) review final draft assessment/evaluation/experiment/quality profile report and provide comments to project manager

The PIB sends the final draft report to DMD ADCs and to the DMD Quality Process Reviewer for approval. The DMD Quality Process Reviewer will review the document to assure adherence to the quality process standards, using Attachment K2 or K3. The PIB coordinates any comments from this review and sends comments, if any, to the project manager. The PIB will also notify the project manager if a revised final draft is required for another round of DMD review.

If DMD provides comments to the project manager, he/she will incorporate the changes into the final draft evaluation report and/or otherwise appropriately address the received comments. If DMD notifies the project manager that another DMD review is required, the project manager prepares a revised final draft and obtains the division chief's approval for transmittal back to DMD PIB (i.e., repeat Step 16).

After DMD approves the report, the project manager prepares the report as final, obtains the Division Chief's signature, and sends the final report in PDF format to DMD Program Information Branch.

Step 18: DMD coordinates final clearances and signatures of assessment/evaluation/experiment/quality profile final report and issues the memorandum

The DMD PIB coordinates the final clearance, including getting the report signed by the DMD division chief. The DMD PIB prepares a cover memo, issues a memorandum number in the appropriate 2010 Census Memorandum Series, and posts the report on the DMD website.

5. Closeout

Steps 19 and 20, below, correspond to activity lines in the MAS shown in Attachment C.

There are two types of data storage that must take place as part of closeout. Study plans, final reports, source documents, etc. get stored on the K drive as described in Step 19, below. Data file extracts and programs used for analysis must be put on the VAX (if not already there) and

stored by Decennial Statistical Studies Division (DSSD) as described in Step 20 and Section 6, below.

Step 19: Save Quality Process Notebook Information

Folders on the Decennial Directorate's 'K' drive have been established to accommodate the electronic Quality Process notebook information for 2008 Census Dress Rehearsal assessments and 2010 CPEX evaluations, experiments, operational assessments, and quality profiles.

For the 2008 Census Dress Rehearsal operational assessments, you will create a folder for your particular report under the parent folder labeled, "2008 Census Dress Rehearsal assessment QP Notebook Information." Your individual folder within the Parent Folder should be labeled with the title (or a truncated title) of your individual report. Within this folder, you will save all electronic files associated with your individual report (you may use subfolders to organize your project files).

For the 2010 CPEX, evaluations, experiments, operational assessments, and quality profiles will be allocated individual sub-folders under the parent folder "2010 CPEX QP Notebook Information." There are four folders under the Parent Folder. There are separate sub-folders for Evaluation Reports, Experiment Reports, Operational Assessment Reports, and Quality Profiles. Each report should only be placed in one of these four sub-folders. Under the appropriate sub-folder, you will create another folder for your particular report, which should be labeled with the title (or a truncated title) of your individual report. Within this folder, you will save all electronic files associated with your individual report (you may use subfolders to organize your project files).

To create an electronic file from paper copies, use the self-service walk-up copier. Follow the instructions to create an electronic file. Then save the file with your individual report.

When saving your project files to your individual folder (and/or subfolders), you should use file names that adequately identify the contents of the file. For example, file names should specifically state whether the file represents a draft version or the final version of a document. Your individual folder should contain, at a minimum:

- Draft and final study plans (including indexed versions, as appropriate)
- Draft and final reports (including indexed versions, as appropriate)
- Software code, specifications, and documentation
- Applicable checklists and project schedules.

Step 20: Provide Data for Archiving

For all evaluations, experiments, operational assessments, and quality profiles, the project managers must provide the project data to the Decennial Statistical Studies Division (DSSD) for

archiving. These archived data will serve as a resource for future researchers' attempts to recover, duplicate, or understand the analysis work conducted for the 2008 Census Dress Rehearsal and 2010 Census assessments/evaluations/experiments/quality profiles.

Project data include all data the project manager used to perform their analysis, with the exception of any files created by a decennial organization for widespread use (e.g., Master Address File (MAF), Decennial Response File (DRF), Census Edited File (CEF), Census Unedited File (CUF), etc.). Those large files, which are primarily created for corporate use, will be archived by the appropriate decennial organization. The DSSD archive process is in place to ensure adequate archiving of those special data files and data extracts that project managers create or obtain in the course of performing their analyses or writing their reports.

In addition to being archived through the DSSD archive process, project data must also be stored with the project's electronic Quality Process notebook information on the "K" drive. However, storing project data with the notebook information **cannot** take the place of the DSSD archive process. The non-data artifacts (e.g., study plans, reports, checklists, etc.) from the notebook information **will not** be archived through the DSSD archive process, but must be stored on the "K" drive.

The DSSD has developed a template for project managers to use to document the project data requiring archiving (see Attachment O). The template allows the project managers to provide all information the DSSD will need to adequately store and document the data.

Project managers should complete the Archiving Documentation Template and submit it along with all applicable data files to Dave Spindel (David.A.Spindel@census.gov) and to Jerry Imel (jerry.douglas.imel@census.gov). The template and data files should also be stored as part of the Quality Process Notebook Information (see Step 19 above).

6. DSSD Archives Data

The DSSD will archive all data received from project managers on the Decennial Alphaserver according to the Census Bureau Guideline "Long-Term Backup of Research and Evaluation Files" (G17-0_V1.0) which is located on the Census Bureau's Quality Management Repository (<http://cww.census.gov/msdir/Guidelines.htm>).

The exception to this is for data from the Center for Administrative Records Research and Applications (CARRA). In this case, CARRA will archive the data, but DSSD will archive all the documentation (including references to where the data are located in the Research and Methodology Directorate).

Researchers interested in accessing the archived data will be able to do so by contacting the DSSD and requesting access to specific files related to any of the studies from the 2008 Census Dress Rehearsal operational assessment program or the 2010 CPEX. Requests from other divisions to the DSSD for access to files must be in the form of a memorandum from division chief to division chief.

Upon receipt of a request for data, the DSSD will review the request and determine the appropriate means for satisfying the request (e.g., delivery of a data file/extract, creation of an Alphaserver account, etc.).

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**Quality Process Checklist for
2008 Census Dress Rehearsal Assessments and
2010 Census Assessments, Evaluations, Experiments, and Quality Profiles**

Evaluation, Experiment, Assessment, or Quality Profile Title:

Project Manager: _____

Division: _____

Section 2.1. Preparing the Study Plan	Date
A. Delivered requirements, if applicable. (Step 1)	
B. Prepared draft study plan. (Step 2)	
C. Sent draft study plan to the critical reviewers. (Step 3)	
D. Received and incorporated/resolved comments. (Step 3)	
E. Sent briefing draft study plan to DMD - ECB and DMD - 2010 Planning Coordination mailbox. (Step 4)*	
F. Briefed CIG on study plan. (Step 6)*	
G. Incorporated comments from briefing. (Step 6)*	
H. Prepared and sent final draft study plan to DMD - PIB. (Step 7)	
I. Received and incorporated comments from DMD review. (Step 8)	
J. Received approval of study plan from DMD, prepared final study plan for Division Chief's signature, and sent PDF format study plan to DMD. (Step 9)	
K. DMD distributed study plan as final. (Step 9)	

* This step applies to quality profiles, but not to quality control plans. Recall that quality control plans serve as study plans for the individual census operations and they provide details about what quality control operations will be implemented for that operation.

Section 2.2. Study Plan Change Control Methodology	Date
If a change is required AND if there is an opportunity to change base-lined requirements, the project manager ensures that the following occurred:	
A. Documented and submitted proposed change(s) to appropriate team(s).	
B. Worked with the appropriate team to ensure that all appropriate groups are informed of the proposed change(s).	
C. No change to the study plan is needed whether the change was or was not approved.	

Section 3.1. Specifications	Date
Title of Specification(s) (Repeat this section for each specification.)	
A. Sent specification for review.	
B. Conducted walkthrough of specification with programmer.	
C. Incorporated/resolved comments from review and/or walkthrough.	
D. Received approval from supervisor for the specification.	

Section 3.2. Developing the Software	Date
Title of Program (Repeat this section for each program.)	
A. Attended walkthrough of the software design conducted by the programmer.	
B. Reviewed results of independent software review.	
C. Reviewed and approved changes.	
D. Approved software.	

Section 4. Analysis	Date
Section 4.1 Prepare the Initial Draft Report	
A. Verified and validated data, statistical concepts, and key concepts. (Step 10)	
Optional Step: Conducted dry run of “general findings” for operational customers.	
B. Conducted analysis and prepared initial draft of report. (Step 11)	
C. Compiled sources and indexed initial draft of report. (Step 11)	
D. Sent initial draft of report for fact-checking. (Step 11)	
E. Received results of fact-checking and incorporated changes. (Step 11)	
F. Sent initial draft of report to critical reviewers. (Step 12)	
G. Received comments and incorporated comments from initial draft review. (Steps 12)	
Section 4.2 Brief ESC for 2010 CAR	
H. Sent briefing draft report to DMD – ECB and DMD - 2010 Planning Coordination mailbox. (Step 13)	
I. Briefed ESC for 2010 CAR. (Step 15)	
J. Incorporated/resolved comments from briefing. (Step 15)	
Section 4.3 Prepare the Final Report	
K. Prepared final draft. (Step 16)	
L. Sent final draft to DMD - PIB. (Step 16)	
M. Received and incorporated comments from DMD review. (Step 17)	
N. Received approval of final draft from DMD. (Step 17)	
O. Prepared cover memo, obtained division chief’s signature, and sent PDF format report to DMD - PIB. (Step 18)	
P. DMD distributed report as final. (Step 18)	

Section 5. Closeout	Date
A. Saved quality process notebook on common drive. (Step 19)	
B. Provided data for archiving. (Step 20)	
C. DSSD archived data. (Step 21)	

Explanatory Notes

If there are steps of the Quality Process that were not completed, project managers should identify those steps and explain why they weren't completed.

Section/Step	Description of Step	Explanation

Checklist: Study Plan/Report Review and Sign-Off Process

Scope: ___ 2008 Assessment ___ 2010 Assessment
 ___ 2010 Evaluation ___ 2010 Experiment ___ 2010 Quality Profile

Document: ___ Study Plan ___ Report

Title: _____

Review Stage	Study Plan	Report
Critical Reviewers		
<i>Name 1</i>	Date Comments Received:	Date Comments Received:
<i>Name 2</i>	Date Comments Received:	Date Comments Received:
<i>Name 3</i>	Date Comments Received:	Date Comments Received:
<i>Name 4</i>	Date Comments Received:	Date Comments Received:
<i>Name 5</i>	Date Comments Received:	Date Comments Received:
<i>Name 6</i>	Date Comments Received:	Date Comments Received:
CIG/ ESC for 2010 CAR Briefing	Briefing Date: _____ Date Comments Received: _____	Briefing Date: _____ Date Comments Received: _____
Project Manager's Division Review	Date Comments Received:	Date Comments Received:
DMD PIB/ECB Review #1	Date Comments Received:	Date Comments Received:
DMD PIB/ECB Review #2 (if necessary)	Date Comments Received:	Date Comments Received:
Project Manager's Division Chief Signature	Signature Date: _____	Signature Date: _____
DMD Chief Signature	Signature Date: _____	Signature Date: _____
DMD Memo Series Issuance	Issue Date: _____ Memo Number: _____	Issue Date: _____ Memo Number: _____

MAS Activities for 2008 Dress Rehearsal Assessments and 2010 Census Evaluations, Experiments, Assessments, and Quality Profiles¹

Data Requirements²

STEP 1: Prepare/deliver requirements for assessment/evaluation/experiment/quality profile data

Study Plan

STEP 2: Prepare assessment/evaluation/experiment/quality profile study plan

STEP 3: Distribute initial draft of assessment/evaluation/experiment/quality profile study plan to critical reviewers

STEP 4: Send briefing draft of assessment/evaluation/experiment study plan to DMD ECB and DMD PMB (DMD - 2010 Planning Coordination mailbox)

STEP 5: Arrange CIG briefing for assessment/evaluation/experiment study plan (DMD ECB)

STEP 6: Brief CIG on assessment/evaluation/experiment study plan

STEP 7: Prepare final draft assessment/evaluation/experiment/quality profile study plan and transmit it to DMD PIB

STEP 8: DMD ADCs review final draft assessment/evaluation/experiment/quality profile study plan and provide comments to project manager

STEP 9: DMD conducts final clearance of final assessment/evaluation/experiment/quality profile study plan and issues the memo

Assessment/Evaluation/Experiment/Quality Profile Report

STEP 10: Receive assessment/evaluation/experiment/quality profile data

STEP 11: Prepare initial draft of assessment/evaluation/experiment/quality profile report

STEP 12: Distribute initial draft of assessment/evaluation/experiment/quality profile report to critical reviewers

¹ Project manager is responsible for all activities, unless otherwise noted (in parentheses).

² Number and type of requirements can vary, information supplied by report Project Manager.

- STEP 13: Send briefing draft of assessment/evaluation/experiment/quality profile report to DMD ECB and DMD PMB (DMD - 2010 Planning Coordination mailbox)
- STEP 14: Arrange ESC for 2010 CAR briefing for assessment/evaluation/experiment/quality profile report
- STEP 15: Brief ESC for 2010 CAR on assessment/evaluation/experiment/quality profile report³
- STEP 16: Prepare final draft of assessment/evaluation/experiment/quality profile report for review and transmit it to DMD PIB
- STEP 17: DMD ADCs review final draft assessment/evaluation/experiment/quality profile report and provide comments to project manager
- STEP 18: DMD coordinates final clearances and signatures of assessment/evaluation/experiment/quality profile final report and issues the memorandum

Closeout

- STEP 19: Save quality process notebook information
- STEP 20: Provide data for archiving

³ For the Dress Rehearsal, CIG briefings have been scheduled so that results can inform 2010. Therefore, this is a milestone date that cannot be changed.

2008 Census Dress Rehearsal Assessments and 2010 Census Evaluations, Experiments and Assessments Study Plan Template

Title of Evaluation, Experiment, or Assessment
Project Manager's Name(s)

I. Introduction

- Purpose of Study

State or summarize the high-level research question(s) that the evaluation, experiment, or assessment addresses.

The text that follows is standard background on the 2008 Census Dress Rehearsal. Incorporate the text in all 2008 Census Dress Rehearsal study plan introductions:

The 2008 Census Dress Rehearsal is an important opportunity for the Census Bureau to ensure an accurate count of the nation's increasingly diverse and rapidly growing population. Although recent funding constraints and operational considerations caused a reduction in Dress Rehearsal operations, it is the first opportunity to apply much of what has been learned from census tests conducted throughout the decade in preparation for the nation's once-a-decade population census.

The 2008 Census Dress Rehearsal was held in two sites, one urban, and the other one a mix of urban and suburban. San Joaquin County, California is the urban site. Fayetteville and Eastern North Carolina is the urban/suburban/rural mix site. This area consists of the city of Fayetteville and nine counties surrounding Fayetteville (Chatham, Cumberland, Harnett, Hoke, Lee, Montgomery, Moore, Richmond and Scotland).

Implementation of a dress rehearsal supports the Census Bureau's 2010 Census Strategic Goals, especially in reducing operational risk and improving the accuracy of census coverage.

- Background

State what has happened in past censuses and tests related to this assessment. (Focus on reports from Census 2000 and/or prior 2010 census tests.)

II. Assumptions

For dress rehearsal assessments, state relevant assumptions about the dress rehearsal operation or system being assessed. For 2010 Census evaluations or assessments, state relevant assumptions about the 2010 Census operation or system being evaluated or assessed. For experiments, state how the experimental conditions differ from the 2010 Census operation or system.

III. Methodology

Explain the project workflow. How does this study get done from start to finish? Are any public use forms required? Include any other requirements.

[The Methodology section is not required for all assessments, i.e., those that only document production information and do not “assess” an operation. If the bullets under the “Assessments Methodology” subheading are not pertinent to answering the questions, then a Methodology Section likely is not needed. One example would be the documentation of mail response and return rates.]

- Questions to Be Answered

Include a more detailed discussion of the overall question(s). (Perhaps the overall question can be broken into smaller questions.)

- Methodology – Address the following points for how you will answer each question:

What operation(s) or system(s) will be evaluated, tested by an experiment, or assessed?
Describe how the data will be used.

General requirements (for example, system requirements, procedural requirements, etc.)

IV. Data Requirements

What are the required data to answer the research questions?

What is the source of the data?

When (generally) will the data be available?

V. Division Responsibilities

A list of participating divisions and contractors as appropriate

A list of tasks divisions must conduct to complete the evaluation, experiment, or assessment

VI. Milestone Schedule (include the month/day/year of milestone activities)

Prepare/deliver requirements for _____ [repeatable, as necessary]

Distribute initial draft study plan

Brief Census Integration Group (CIG) on briefing-draft study plan

Coordinate final clearances and signatures on final study plan and issue it in the appropriate memo series (DMD Program Information Branch (PIB))

Distribute initial draft report

Brief ESC for 2010 CAR on briefing-draft report

Coordinate final clearances and signatures on final report and issue it in the appropriate memo series (DMD PIB)

VII. Risks/Limitations

Project Management Body of Knowledge (PMBOK) 2000 defines risk as an uncertain event or condition that, if it occurs, has a positive or negative effect on a project objective. For limitations, discuss confounding factors that require a statement qualifying the findings of the evaluation or experiment.

- General program risks for all evaluations, experiments, or assessments (that apply to this evaluation, experiment, or assessment also)

For Dress Rehearsal Assessments, include the following two limitations in all reports:

The 2008 Census Dress Rehearsal results are based on two sites that were purposely selected and cannot be generalized to the entire U.S.

The 2008 Census Dress Rehearsal was not conducted in a decennial census environment and therefore results may not replicate the results to be obtained in the 2010 Census.

- Risks specific to this evaluation, experiment, or assessment
- Limitations (that are known at this time)

VIII. Related Assessments, Evaluations, and/or Experiments - In this section, project managers are to discuss related studies that are presently being planned. If this is a Dress Rehearsal assessment, include related Dress Rehearsal assessments. If this is a 2010 evaluation, experiment, or assessment, include related 2010 evaluations, experiments, and/or assessments.

IX. Issues That Need to be Resolved

X. References

Template
Transmittal Email to Supervisor and Critical Reviewers
for the Review of the Initial Draft Study Plan

Attached is the initial draft study plan, “*title*,” for the *2008 Census Dress Rehearsal* or the *2010 Census*. Please review and provide comments to *project manager(s)’ name(s)* by COB, *due date*. If you are unable to provide feedback by then, please advise as soon as possible. Non-respondents will be sent a reminder after # days.

You have been identified to provide feedback on the initial draft study plan for this research. Given your area of expertise and/or program knowledge, it is essential that the project manager(s) receive input from your technical review early in the project life cycle. This is necessary to ensure that project managers follow the appropriate design and methodology for collecting pertinent data for this analysis.

Please provide (via email) comprehensive comments on the attached initial draft study plan. If, after review, you have no comments, inform the project manager(s) to that effect. A non-response after a second request for comments will be viewed as your full concurrence with the initial draft study plan.

If you have questions during your review, please contact *project manager(s)* on extension 3-XXXX. Thank you for your attention to this matter.

[NOTE: Items in italics are to be completed by the evaluation’s project manager. This is a suggested form for the transmittal email; the project manager may provide additional information, as needed.]

Template
Transmittal Email to DMD PMB (DMD - 2010 Planning Coordination)
and DMD ECB
for the CIG Briefing Draft Study Plan

Attached is the briefing draft study plan, "*title*," for the *2008 Census Dress Rehearsal* or the *2010 Census*. The Quality Process for the 2008 Census Dress Rehearsal Assessments and the 2010 Census Test Evaluations, Experiments, and Assessments was applied to the methodological development and the study plan review process.

If you have questions about this briefing draft study plan, please contact *project manager(s)* on extension 3-XXXX.

[NOTE: Items in italics are to be completed by the evaluation's project manager. This is a suggested form for the transmittal memorandum; the project manager may provide additional information, as needed.]

Template
Transmittal Email to DMD PIB
for Approval of the Final Draft Study Plan

Attached is the final draft study plan, "*title*," for the *2008 Census Dress Rehearsal* or the *2010 Census*. The Quality Process for the 2008 Census Dress Rehearsal Assessments and the 2010 Census Test Evaluations, Experiments, Assessments, and Quality Profiles was applied to the methodological development and the report review process.

If you have questions about this final draft study plan, please contact *Project Manager(s)*' *name(s)* on extension 3-XXXX.

[NOTE: Items in italics are to be completed by the evaluation's project manager. This is a suggested form for the transmittal email; the project manager may provide additional information, as needed.]

Template
Transmittal Email to Supervisor and Critical Reviewers
for the Review of the Initial Draft Report

Attached is the initial draft report, "*title*," for the *2008 Census Dress Rehearsal* or the *2010 Census*. Please review and provide comments to *project manager(s)' name(s)* by COB, *due date*. If you are unable to provide feedback by then, please advise as soon as possible. Non-respondents will be sent a reminder after # days.

You have been identified to provide feedback on the initial draft report for this research. Given your area of expertise and/or program knowledge, it is essential that the project manager(s) receive input from your technical review early in the project life cycle. This is necessary to ensure that project managers follow the appropriate design and methodology for collecting pertinent data for this analysis.

Please provide (via email) comprehensive comments on the attached initial draft report. If, after review, you have no comments, inform the project manager(s) to that effect. A non-response after a second request for comments will be viewed as your full concurrence with the initial draft report.

If you have questions during your review, please contact *project manager(s)* on extension 3-XXXX. Thank you for your attention to this matter.

[NOTE: Items in italics are to be completed by the evaluation's project manager. This is a suggested form for the transmittal email; the project manager may provide additional information, as needed.]

Template
Transmittal Email to DMD PMB (DMD - 2010 Planning Coordination)
and DMD ECB
for the ESC for 2010 CAR Briefing of the Draft Report

Attached is the briefing draft report, "*title*," for the *2008 Census Dress Rehearsal* or the *2010 Census*. The Quality Process for the 2008 Census Dress Rehearsal Assessments and the 2010 Census Test Evaluations, Experiments, Assessments, and Quality Profiles was applied to the methodological development and the report review process.

If you have questions about this briefing draft report, please contact *project manager(s)* on extension 3-XXXX.

[NOTE: Items in italics are to be completed by the evaluation's project manager. This is a suggested form for the transmittal memorandum; the project manager may provide additional information, as needed.]

Template
Transmittal Email to DMD PIB
For Approval of the Final Draft Report

Attached is the final draft report, "*title*," for the *2008 Census Dress Rehearsal* or the *2010 Census*. The Quality Process for the 2008 Census Dress Rehearsal Assessments and the 2010 Census Test Evaluations, Experiments, Assessments, and Quality Profiles was applied to the methodological development and the report review process.

If you have questions about this final draft report, please contact *Project Manager(s)' name(s)* on extension 3-XXXX.

[NOTE: Items in italics are to be completed by the evaluation's project manager. This is a suggested form for the transmittal memorandum; the project manager may provide additional information, as needed.]

Checklist: Reviewing Final Draft Study Plans

Title of program: 2008 Dress Rehearsal _____ or 2010 Census _____

Title of Evaluation, Experiment, Assessment or Quality Profile:

Project Manager(s) name(s) and division(s):

QP Standard	Okay	Not Okay	Comments
<p>Content: The following content needs to be included in the report:</p> <p>Standard background information on the dress rehearsal (For dress rehearsal assessments only)</p> <p>A statement of the question being addressed</p> <p>Background</p> <p>Relevant assumptions</p> <p>Description of the methodology</p> <p>Data Requirements</p> <p>Division Responsibilities</p> <p>Milestone Schedule</p> <p>Risks and/or limitations (dress rehearsal assessments must include the two standard limitations)</p> <p>Related assessments, evaluations, or experiments</p> <p>References</p>	<input type="checkbox"/>	<input type="checkbox"/>	If not okay, explain:
QP Reviewer's Recommendation:			
Study Plan/Analysis Plan acceptable as is	<input type="checkbox"/>	Unless otherwise directed by DMD, send "Final" plan to DMD.	
Minor Changes, not necessitating further review	<input type="checkbox"/>	Unless otherwise directed by DMD, incorporate comments and send "Final" plan to DMD.	
Major Changes, further review required	<input type="checkbox"/>	DMD is to provide all comments to project manager and requires project manager's division chief to approve a "Revised Final Draft" for transmittal to DMD.	
Technical changes _____ Grammatical/Formatting _____ Other (w/ explanation) _____			

Checklist: Reviewing Final Draft Assessment Reports

Title of program: 2008 Dress Rehearsal _____ or 2010 Census _____

Title of Assessment:

Project Manager(s) name(s) and division(s):

QP Standard	Okay	Not Okay	Comments
<p>Content: The following content needs to be included in the report:</p> <p>Title Page Table of Contents List of Tables/List of Figures (as appropriate) Executive Summary Description of the dress rehearsal (For dress rehearsal assessments only) Introduction/Background Research questions and answers to questions Relevant assumptions Workload/Workflow Schedule Summary of change control actions, if any Major findings/results Conclusions and/or recommendations References</p>	<input type="checkbox"/>	<input type="checkbox"/>	If not okay, explain:
Evidence of indexing	<input type="checkbox"/>	<input type="checkbox"/>	

QP Reviewer's Recommendation:

Report is acceptable as is	<input type="checkbox"/>	Unless otherwise directed by DMD, send "Final" report to DMD.
Minor Changes, not necessitating further review	<input type="checkbox"/>	Unless otherwise directed by DMD, incorporate comments and send "Final" report to DMD.
Major Changes, further review required Technical changes _____ Grammatical/Formatting _____ Other (explain) _____	<input type="checkbox"/>	DMD is to provide all comments to project manager and requires project manager's division chief to approve a "Revised Final Draft" for transmittal to DMD.

Checklist: Reviewing Final Draft Evaluation, Experiment, and Quality Profile Reports

Title of Evaluation, Experiment, or Quality Profile:

Project Manager(s) name(s) and division(s):

QP Standard	Okay	Not Okay	Comments
<p>Content: The following content needs to be included in the report:</p> <p>Title Page Table of Contents List of Tables/List of Figures (as appropriate) Executive Summary Introduction/Background Methodology Limitations Results Research questions and answers to questions Conclusions/Recommendations References</p>	<input type="checkbox"/>	<input type="checkbox"/>	If not okay, explain:
Evidence of indexing	<input type="checkbox"/>	<input type="checkbox"/>	

QP Reviewer's Recommendation:

Report is acceptable as is	<input type="checkbox"/>	Unless otherwise directed by DMD, send "Final" report to DMD.
Minor Changes, not necessitating further review	<input type="checkbox"/>	Unless otherwise directed by DMD, incorporate comments and send "Final" report to DMD.
Major Changes, further review required Technical changes _____ Grammatical/Formatting _____ Other (explain) _____	<input type="checkbox"/>	DMD is to provide all comments to project manager and requires project manager's division chief to approve a "Revised Final Draft" for transmittal to DMD.

Assessment Content for the 2008 Census Dress Rehearsal

Assessment Program Background

The Decennial Statistical Studies Division will be responsible for preparing assessment study plans and reports and briefing the Census Integration Group (CIG) and others, as needed. Appropriate Operational Integration Teams, Integrated System Teams, and Integrated Product Teams will be responsible for recommending and ranking what assessments should be done, specifying general scope (including the assessment questions), critically reviewing study plans and reports, and specifying when the final results are needed to inform 2010. The CIG is the governing body to review, approve and base-line the Assessment Program.

Assessment Content

Assessments are used to document final volumes and rates for individual operations or processes, using data from production files and activities; quality control files and activities; and information collected from debriefings and lessons learned. Assessments include some discussion of data, but do not include explanation of error.

[For the dress rehearsal regard collection/reporting of cost information (beyond what's already being done with Cost and Progress) as out of scope. This is because the 2010 budget will already have been submitted by the time dress rehearsal cost data are available. If a team has a compelling reason to include cost, send an email with explanation to Karen Medina and Joan Marie Hill of the Evaluations, Experiments, Assessments OIT.]

To illustrate the full range of content that *could be in* an assessment, below are items that would be appropriate for 2008 Census Dress Rehearsal assessments. **Assessments are not required to include or cover every item listed. Assessments must have questions and the appropriate content that would be necessary to answer them and to address issues, concerns, and interests of the corresponding OIT, IST, or IPT.**

Potential items to include in the assessments:

1. Background of the program and summary of interrelated programs.
2. State relevant assumptions, if any, about the design of the 2008 Census Dress Rehearsal that affect the operation being assessed. For example, include assumptions about how the 2008 Census Dress Rehearsal operation may differ from the 2010 Census base-lined operation.

3. Workloads and Workflow.
 - 3.1 Workload examples include: incoming counts; outgoing counts; the actions or final dispositions; mode of case completion or resolution (Computer Assisted Telephone Interview (CATI)/Field, telephone/personal visit) where it matters (e.g., coverage followup, nonresponse followup reinterview); use of language options (e.g., Spanish toggle, use of field translators); contact and attempt history when available by case; reassigned work number and reasons; and any other operational tallies, as required.
 - 3.2 Workflow examples include incoming work by day¹, workflow of resolved or completed cases to processing over time; and workflow of reinterview cases from field through Matching, Review, and Coding System (MARC)s, back to field by resolution and timeliness.

This includes interface functionality/efficiencies on data receipts/deliveries with Headquarters processing/servicing areas, Decennial Response Integration System, and Field Data Collection Automation systems.

4. Schedule - How did actual start and completion dates compare to planned start and completion dates?
5. Staffing - Field or National Processing Center (NPC) staffing by position and over time (authorized, invited to training, trained, worked, replacements) - both field and office.

2.1.1

6. Training - For example, number and duration of training sessions and number of replacement training sessions.
7. Summary of change control actions, as far as volume and the impact on time, resources, and/or scope.
8. Automation implementation, as appropriate - For example, equipment performance/breakage/downtime/repair/loss/maintenance records and summary of automation problems documented by transmission logs, help tickets, etc (need to try to quantify impact).

¹ Important for QC workloads which derive from completed cases, operations that may flow work out in waves to field, such as Coverage Followup, and recycled cases such as deletes in address canvassing that need to be rechecked, vacant and delete recheck in NRFU, and cases recycled through supervisory review such as noninterviews, pop 99s.

9. Limitations - Include problems or deviations from planned operations that affect your results. Include the following two limitations in all reports:

The 2008 Census Dress Rehearsal results are based on two sites that were purposely selected and cannot be generalized to the entire U.S.

The 2008 Census Dress Rehearsal was not conducted in a decennial census environment and therefore results may not replicate the results to be obtained in the 2010 Census.

10. Major findings from structured observation reports.
11. Results from focus groups with respondents.
12. Debriefings - Information derived from debriefings with field and/or office staff.
13. Correspondence - Letters, emails, etc from site residents or elected officials, congressional inquiries, and other comments or questions from the public that are related to the test and that might shed some light on the conduct of the operations.
14. Lessons Learned by the OIT, IST, or IPT- what worked well and what needs improvements.
15. Results from answering specific assessment questions.
16. Conclusions and/or recommendations for the 2010 Census.

Assessment Content for the 2010 Census

Program Scope and Responsibilities

For the 2010 assessments, a Decennial Management Division (DMD) representative on the appropriate Operational Integration Teams (OITs), Integrated Systems Teams (ISTs), and Integrated Product Teams (IPTs) and staff from the Decennial Statistical Studies Division (DSSD) will work as co-authors of assessment study plans and reports and will brief the Census Integration Group (CIG) and others, as needed.

- The DMD team representative (generally the DMD co-lead on the team) will take the lead in preparing the assessment study plans and reports. The DSSD will be responsible for the data analysis component of selected assessments, including contributing to the methodology for the data analysis and defining data requirements. Other divisions may be called on to help develop assessment study plans and reports for selected assessments.
- All 2010 operations, programs, and systems require an assessment (unless the case is made by the appropriate team **not** to prepare an assessment and the CIG agrees).
- The appropriate OIT, IST, and IPT are responsible for specifying general scope (including assessment questions), critically reviewing study plans and reports, and specifying when the final results are needed.
- The CIG is the governing body to review, approve and base-line the Assessment Program.

Team Responsibilities

Each OIT, IST, and IPT is responsible for:

- Defining assessment questions and gaining approval for those questions from the CIG.
- Ensuring that co-authors brief the CIG on the assessment study plan.
- Ensuring that co-authors brief the ESC for 2010 CAR on the initial draft of the assessment report.
- Finalizing the assessment report and obtaining approvals.

Assessment Content

Assessments are used to document final volumes and rates for individual operations or processes, using data from production files and activities; quality control files and activities; and information collected from debriefings and lessons learned. Assessments include some discussion of data, but are not required to include explanation of error.

Assessments should address issues, concerns, and interests of the corresponding OITs, ISTs, or IPTs.

Required items that must be included in each assessment, as appropriate, are:

1. Background of the program and summary of interrelated programs.
2. State relevant assumptions, if any, about the design of the 2010 Census that affect the operation being assessed.
3. Workloads and workflow.

Workload examples include: incoming counts; outgoing counts; the actions or final dispositions; mode of case completion or resolution (Computer-Assisted Telephone Interview (CATI)/Field, telephone/personal visit) where it matters (e.g., coverage followup, nonresponse followup (NRFU) reinterview); use of language options (e.g., Spanish toggle, use of field translators); contact and attempt history when available by case; reassigned work number and reasons; and any other operational tallies, as required.

Workflow examples include incoming work by day², workflow of resolved or completed cases to processing over time; and workflow of reinterview cases from field through Matching, Review, and Coding System (MARC)s, back to field by resolution and timeliness.

This includes interface functionality/efficiencies on data receipts/deliveries with Headquarters processing/servicing areas, Decennial Response Integration System, and Field Data Collection Automation systems.

4. Schedule – How did actual start and completion dates compare to planned start and completion dates?

² Important for QC workloads which derive from completed cases, operations that may flow work out in waves to field, such as Coverage Followup, and recycled cases such as deletes in Address Canvassing that need to be rechecked, vacant and delete recheck in NRFU, and cases recycled through supervisory review such as noninterviews, Pop 99s (questionnaires with no person data for one person).

5. Costs – What were the costs for the operation? Was the operation over or under budget?

Budgeted cost reports for all operations should be produced from the Decennial Cost Model. Actual costs should be produced from the Cost and Progress System.

6. Staffing – Field or National Processing Center (NPC) staffing by position and over time (authorized, invited to training, trained, worked, replacements) – both field and office.
7. Training – For example, number and duration of training sessions and number of replacement training sessions.
8. Summary of change control actions, as far as volume and the assumed impact on time, resources, and/or scope.
9. Automation implementation, as appropriate – For example, equipment performance/breakage/downtime/repair/loss/maintenance records and summary of automation problems documented by transmission logs, help tickets, etc. (need to try to quantify impact).
10. Major findings from structured observation reports.
11. Results from focus groups with respondents.
12. Debriefings – Information derived from debriefings with field and/or office staff.
13. Correspondence – Letters, emails, etc. from site residents or elected officials, congressional inquiries, and other comments or questions from the public that are related to the census and might shed some light on the conduct of the operations.
14. Lessons Learned by the OIT, IST, or IPT – what worked well and what needs improvements.
15. Results from answering specific assessment questions, which have not been included in other sections.
16. Conclusions and/or recommendations for the 2020 Census.

2008 Census Dress Rehearsal Study Plan
Local Update of Census Addresses (LUCA) Assessment
Christine Gibson Tomaszewski

I. Introduction

Purpose of Study

The 2008 Census Dress Rehearsal is a critical part of the U.S. Census Bureau's plans to ensure an accurate count of the nation's increasingly diverse and rapidly growing population. The Dress Rehearsal is the first opportunity to apply what has been learned from census tests that have been conducted throughout the decade in preparation for the nation's once-a-decade population census.

The 2008 Census Dress Rehearsal will be held in two sites: San Joaquin County, California, and a nine-county area surrounding Fayetteville, North Carolina:

San Joaquin County: This California county was selected because it presented an urban location with a multilingual population and an assortment of group quarters housing, such as college dorms and nursing homes.

Fayetteville and the surrounding area: This North Carolina region is a mix of both urban and suburban areas and has two military bases (Fort Bragg and Pope Air Force Base). The following nine counties are included in the site: Chatham, Cumberland, Harnett, Hoke, Lee, Montgomery, Moore, Richmond, and Scotland.

Implementation of a dress rehearsal supports the U.S. Census Bureau's 2010 Census Strategic Goals, especially in reducing operational risk and improving the accuracy of census coverage.

See the [2008 Census Dress Rehearsal Memo 3](#), **2008 Census Dress Rehearsal Operation and System Plan**, for additional background on the dress rehearsal sites, the strategic goals, and the Assessment Program.

The purpose of this assessment is to report on the Local Update of Census Addresses (LUCA) program in the 2008 Dress Rehearsal. The 2008 Dress Rehearsal LUCA program is designed to utilize the expertise of tribal, state, and local governments to improve the accuracy and completeness of the U.S. Census Bureau's address list. As part of the 2008 Dress Rehearsal, the LUCA program was conducted to test procedures in place for the 2010 Census and refine budget and workload estimates for the 2010 Census. This assessment will report participation levels among the eligible governments and the workloads associated with those participation levels to inform plans for the 2010 Census.

For U.S. Census Bureau statistical purposes, a government is defined as an organized entity subject to public accountability, whose officials are popularly elected or are appointed by public officials, and which has sufficient discretion in the management of its affairs to distinguish it as separate from the administrative structure of any other governmental unit. Among the types of local governments recognized by the U.S. Census Bureau are counties, municipalities, and townships (U.S. Census Bureau, Information Brochure, March 2006).

There have been no LUCA assessments since the assessments for Census 2000. The LUCA program was not conducted during the 2004 and 2006 Census Tests, however the U.S. Census Bureau did conduct a nationwide survey of potential customers in 2005 and a LUCA state pilot in 2006. Thus, it was important to assess the LUCA program during the 2008 Census Dress Rehearsal, noting the changes since 2000 and the planned changes between this LUCA program and the planned 2010 LUCA program.

Background

Census 2000 LUCA

The LUCA program is designed to provide tribal, state, and local governments the opportunity to review and update the U.S. Census Bureau's address list prior to the commencement of the decennial census, thereby ensuring accurate coverage of their jurisdiction. Public Law 103-430 (passed on October 30, 1994) permitted the U.S. Census Bureau, under strict confidentiality guidelines, to share the address list and, upon review and acceptance, add the new addresses and corrections to its Master Address File (MAF) (U.S. Census Bureau, Information Brochure, March 2006).

The LUCA program for Census 2000 was the first nationwide attempt to allow tribal and local governmental officials who signed confidentiality agreements to review an address list for their jurisdiction. Construction of the U.S. Census Bureau's 2000 address list was under development before 2000 and came in two parts, thus the LUCA program was done in two separate operations, LUCA 98 and LUCA 99. The two operations covered different types of addresses, city-style or non-city-style addresses, respectively. Many governmental jurisdictions included both city-style and non-city-style addresses, and this forced many governments to participate in both LUCA operations.

City-style addresses contain a street name and a house number (for instance 101 Main Street), may include an apartment number/designation or similar identifier, and may or may not be used for delivery of mail. Non-city-style addresses do not contain a street name and house number. Non-city-style may include rural route and box number addresses and highway contract addresses, which may include a box number, post office boxes and drawers, and general delivery (U.S. Census Bureau, Information Brochure, March 2006).

LUCA 98 was the operation for addresses in areas where the U.S. Census Bureau used the mailout/mailback enumeration method. For LUCA 98, where the addresses were primarily city-

style, governments received an address list for LUCA 98 areas in their jurisdiction. They could correct, delete, identify addresses on the list as nonresidential, or add new addresses not on the list (Owens, 2003).

LUCA 99 was the operation for addresses in areas where the U.S. Census Bureau used update/leave or update/enumerate enumeration methods. Since addresses in LUCA 99 were primarily non-city-style (rural routes, location descriptions, and post office boxes), participating governments reviewed block counts of housing units in their jurisdiction. The U.S. Census Bureau recanvassed all areas which the participating governments identified as having incorrect housing counts (Owens, 2002).

LUCA Census Tests

The LUCA programs planned for the 2004 and 2006 Census Tests were cut. The LUCA program for the 2004 Census Test was cut for budgetary reasons. In the 2006 Census Test, a decision had been made to only include governments entirely within the 2006 Census Test sites in the LUCA program. Due to the small number of governments entirely within the 2006 Census Test sites, the U.S. Census Bureau cancelled the LUCA program for the 2006 Census Test (Johanson, 2006).

Instead of the LUCA Program of the 2006 Census Test, a 2005 LUCA Survey was conducted, querying a nationwide sample of governments on their knowledge of and interest in LUCA for the 2010 Census.

In Census 2000, state governments were not allowed to formally participate in the LUCA programs, though states could assist local governments. Based on recommendations following Census 2000's LUCA programs, the U.S. Census Bureau worked with Wisconsin and Indiana to conduct a state LUCA program pilot test in select counties of Indiana and Wisconsin. This was the first look into the feasibility of allowing state participation in LUCA. Staff from the Geography Division (GEO) conducted a field operation to verify the address lists submitted by Wisconsin and Indiana. They validated 70 percent of the Wisconsin adds and 55 percent of the Indiana adds (Franz and Pfeiffer, 2006). The overall yield rate of 59 percent was similar to the nationwide results for Census 2000 (in LUCA 98 and LUCA 99) (Franz and Pfeiffer, 2006). LUCA 98 participants added 5,302,094 addresses to the MAF, of which 58 percent were confirmed to exist in either the Block Canvassing operation or in the LUCA Field Verification operation (Owens, 2003). LUCA 99 participants challenged 117,073 blocks, and about 53 percent of the challenged blocks yielded adds (Owens, 2002).

2008 Census Dress Rehearsal LUCA

The current 2008 Census Dress Rehearsal LUCA program was different in scope and operation from the LUCA program conducted for Census 2000. There were three participation options for governments interested in LUCA.

- Option 1 – Title 13 Full Address List Review
- Option 2 – Title 13 Local Address List Submission
- Option 3 – Non-Title 13 Local Address List Submission

All governments participating in the 2008 Census Dress Rehearsal LUCA program received an address count list and maps of their jurisdictions and were eligible to make updates and corrections to the features and boundaries on the maps. Governments were allowed to opt to receive electronic maps, known as shapefiles, instead of paper maps. Governments can edit a shapefile by use of a Geographic Information System (GIS) software program.

After the Address Canvassing Operation, all governments participating in the 2008 Census Dress Rehearsal LUCA program will receive “feedback” from the U.S. Census Bureau on their changes to the address list. “Feedback” consists of updated maps and block counts for all participants and will include updated address lists for participating governments who signed confidentiality agreements.

Option 1 and 2 participants were required to sign confidentiality agreements in order to view the U.S. Census Bureau’s Title 13 address list for their jurisdiction. The address list included both city-style and non-city-style addresses. They were also eligible to receive “feedback” on their changes to the address list. For the 2010 Census LUCA program, Option 1 and 2 participants will also be eligible for the appeals process. The appeals process is where participants who disagree with the feedback on their address list updates can request, through an independent appeals office, that addresses not found during the Address Canvassing operation be added to the U.S. Census Bureau's address list.

Since Option 3 participants did not sign confidentiality agreements, they were not eligible to see the U.S. Census Bureau’s address list, and cannot receive “feedback” on their address list nor would they participate in the appeals process during the 2010 Census LUCA program. Option 3 participants may only receive updated maps and block counts as “feedback.”

Option 1 participants could correct, delete, or mark as duplicate or nonresidential any city-style address on the U.S. Census Bureau’s address list. For each block in their jurisdiction, Option 1 participants could either update the city-style addresses or challenge the block count. They could also add geocoded, city-style addresses to the list. A geocoded address is an address that is submitted with a number (or “code”) identifying the block where the address is located in the MAF/TIGER (Master Address File/Topologically Integrated Geographic Encoding and Referencing) database.

Option 1 participants with less than 6,000 addresses in their jurisdiction may have chosen to receive paper or electronic address lists. Option 1 participants with more than 6,000 addresses in their jurisdiction and Option 2 participants could only receive electronic address lists (U.S. Census Bureau, Participant Guide, February 2007).

Option 2 participants viewed, but could not make corrections to the U.S. Census Bureau's address list. They submitted their own electronic address list of geocoded, city-style addresses. Option 3 participants also submitted an electronic address list of geocoded, city-style addresses. Neither Option 2 nor Option 3 participants could challenge block counts. The addresses on their lists were matched to the U.S. Census Bureau's address list.

II. Assumptions

The key assumptions for the LUCA operation in the 2008 Census Dress Rehearsal Operations & Systems Plan (U.S. Census Bureau, March 2007) were:

- The Field Data Collection Automation contract will support the hardware acquisitions for the production of LUCA materials at the National Processing Center.
- The GEO will process all electronic government submissions.
- LUCA submissions will be processed before the Address Canvassing operation.

III. Questions and Methodology

The intent of this assessment is to document what happened during the 2008 Census Dress Rehearsal LUCA operation and to provide the information necessary for the Geographic Programs Operational Integration Team (GP OIT), stakeholders, and decision-makers to ascertain what refinements/improvements are necessary to achieve an efficient, well-designed LUCA program in the 2010 Census.

In this assessment, we focus on two major components that contributed to the overall impact of the 2008 Census Dress Rehearsal LUCA program on the plans for the 2010 LUCA program. These two components are the participation of tribal, state, and local governments and the updates submitted by participating governments. We will answer several sub-questions about each component, which will provide both quantitative and qualitative information about what happened during the 2008 Census Dress Rehearsal LUCA program. Additionally, this assessment will document the lessons learned from the 2008 Census Dress Rehearsal LUCA program.

The research questions include changes since the Census Integration Group (CIG) first approved the topics and questions, as noted by the words in *italic font*. The original questions are listed in the Appendix. When providing results in the final report, the author may change how the sub-questions are organized.

1. *Did the LUCA Program enlist government participation and in what form did they participate?*

- a. Of the eligible tribal, state, and local governments, how many participated (see note below) in the LUCA program? By size of governmental unit (number of housing units)?
- b. Below the state level, what percent of the housing units were covered by LUCA participants? What percent of the blocks were covered by LUCA participants?
- c. Of those that participated, how many provided address, feature, and/or boundary updates?
- d. How many officially dropped out of the program?
- e. Which media (paper versus electronic) did they choose for maps and address lists?
- f. Of the governments that participated, which option did they choose?
- g. Of the governments that participated, how many days passed between when we sent materials and when we received updates?
- h. Did California and North Carolina participate in the state-level program?
- i. Which option(s) did California and North Carolina choose?
- j. Did either state provide any address, feature, and/or boundary updates?
- k. Did either state officially drop out?

We will use the quantitative results from sub-questions a-k, along with appropriate comparisons to previous data (such as LUCA 98, LUCA 99, State Pilot), to answer the high-level question about overall participation.

Notes:

- Participation is defined to mean that a government submitted a registration form, chose a participation option, chose a map media type, chose an address list media type (if Option 1), signed the LUCA confidentiality agreement (if Option 1 or 2), and signed the LUCA self-assessment checklist (if Option 1 or 2).
- Question 1 will be answered using total participation and submission government-level tallies from the GEO. The Decennial Statistical Studies Division (DSSD) will stratify the tallies by option and by size (number of housing units) where appropriate.

- ‘Officially dropped out’ means that the government notified the U.S. Census Bureau that they were no longer participating in LUCA, and returned or destroyed their materials.
- When comparing the 2008 Census Dress Rehearsal LUCA program to LUCA 98 and LUCA 99, the results may be misleading because one government could be in both LUCA 98 and LUCA 99.

2. *What updates did participating governments provide?*

- a. Of the records processed by GEO, how many records were rejected by GEO due to insufficient information (for example, no geocodes)?
- b. Of the records processed by GEO, how many adds, corrections, deletions, duplicates, and nonresidential addresses did governments that chose Option 1 provide?
- c. What was the number of blocks that were challenged? What percent of the blocks were challenged in each jurisdiction?
- d. For those governments that chose Option 2 or 3, how many address list records did these governments give us?
- e. How many new addresses did these governments give us, prior to Address Canvassing?

These questions are asked for documentation purposes to provide information on workloads to assist in planning for future LUCA programs.

Notes:

- Question 2 will be answered using total participation and submission government-level tallies from the GEO. The DSSD will stratify the entity-level submission tallies from the GEO by option to give the totals for each sub-question.
- Question 2c was modified by the LUCA Implementation sub-team to remove “for non-city-style addresses,” since 2008 Census Dress Rehearsal LUCA allowed Option 1 participants to challenge blocks regardless of whether the MAF indicated the block contained non-city-style addresses.

3. *What level of effort was needed to process governmental entity updates?*

- a. Did participants provide the address list files in the prescribed format? By option?
- b. Did any problems occur during preprocessing and how much time did it take to fix them?

The qualitative answers to these questions will assess whether or not the participating governmental entities provided their updates in the required format, so that the GEO could apply the updates to the MAF/TIGER database. The resources required to fix the problems encountered, as well as the results of the previous question, will be used to describe the effort needed to process the submissions in order to help in planning for the 2010 LUCA program.

For the processing time sub-questions of questions 3, the Field Division (FLD) will provide data on regional office processing difficulties and estimates on regional office processing time. The GEO will provide data on their preprocessing difficulties and estimated times. These data will be included in the LUCA assessment report.

4. *What were the lessons learned by the Geographic Programs Operational Integration Team (GP OIT) during the 2008 Census Dress Rehearsal LUCA Program?*

The GP OIT will provide the Lessons Learned to the DSSD related to the LUCA program. The GP OIT will coordinate lessons learned by the divisions involved in 2008 Census Dress Rehearsal LUCA Program, and give the DSSD a lessons learned section which integrates the lessons learned by each of the divisions involved in the 2008 Census Dress Rehearsal LUCA Program.

IV. Data Requirements

The LUCA Program has already taken place and the majority of the data is available in the GEO's 2008 Census Test LUCA Program Production Control system. The DSSD will give a formal request for the data to the GEO, and record the official tallies in the final assessment report. The FLD will provide data on regional office processing difficulties and estimates on preprocessing time.

V. Division Responsibilities

- The GEO will provide LUCA data tallies to the DSSD.
- The FLD will provide time estimates related to regional office processing difficulties to the DSSD.
- The DSSD will analyze the LUCA data and develop the assessment report.
- The Decennial Management Division (DMD) will coordinate final clearances and signatures on the final assessment study plan and final assessment report and issue both in the 2010 Memorandum Series.

- The GP OIT will provide the Lessons Learned to the DSSD and is ultimately responsible for approval of the final assessment report. The GEO was selected by the GP OIT to coordinate the Lessons Learned section with other divisions.

VI. Milestone Schedule

Distribute initial draft study plan to the GP OIT	3/14/2007
Review and comment on initial draft study plan (critical reviewers)	3/15/2007-3/28/2007
Brief CIG on draft study plan	4/25/2007
Coordinate final clearances and signatures on final study plan and issue it in the 2010 Memorandum Series (DMD Program Information Branch (PIB))	6/29/2007-7/3/2007
Distribute initial draft report to the GP OIT	7/5/2007
Review and comment on initial draft report (critical reviewers)	7/6/2007-7/18/2007
Brief CIG on draft report	8/17/2007
Coordinate final clearances and signatures on final report and issue it in the 2010 Memorandum Series (DMD PIB)	11/1/2007-11/5/2007

VII. Limitations

- The 2008 Census Dress Rehearsal results are based on two sites and cannot be generalized to the entire United States.
- The GEO developed “MAF/TIGER Partnership Software” for the 2010 LUCA Program, which was not scheduled to be finished in time to test it as part of the 2008 Census Dress Rehearsal LUCA Program. The partnership software is a GIS software program that allows easy management of the electronic address lists and shapefiles, and outputs data in a format that the U.S. Census Bureau can read and process. The assumption for the 2010 Census is that this software will reduce or eliminate some processing difficulties by ensuring that the electronic submissions from participants will automatically be properly formatted. This assessment will not be able to document the impact this software will have on processing times, positively or negatively.
- The GEO developed preprocessing software for the 2010 LUCA Program, which was not scheduled to be finished in time to test it as part of the 2008 Census Dress Rehearsal

LUCA Program. The preprocessing software is a program that processes electronic address submissions and rejects individual address records that do not fit the U.S. Census Bureau's required format. The assumption for the 2010 Census is that this software will reduce or eliminate some processing difficulties by ensuring that the electronic submissions received by the GEO from participants will be properly formatted. Incorrectly formatted records will be rejected and, if time permits, sent back to the participants for correction. This assessment will not be able to document the impact this software will have on processing times, positively or negatively.

- The GEO did not operate a LUCA Help Desk during the 2008 Census Dress Rehearsal LUCA Program. During the 2010 LUCA Program, governments will be able to call the LUCA Help Desk for technical assistance with their submissions. The assumption for the 2010 Census is that the LUCA Help Desk will reduce or eliminate some processing difficulties by providing vocal assistance to participants who have questions. This assessment will not be able to document the impact the LUCA Help Desk will have on processing problems, positively or negatively.
- There is no appeals process for the 2008 Census Dress Rehearsal LUCA Program. Thus, we do not know the effects that the appeals process will have on the Nonresponse Followup (NRFU) workload for 2010. In LUCA 98, over 96 percent of the 313,853 appealed addresses were added to the MAF after approval by the Census Address List Appeals Office established by the Office of Management and Budget, of which 45 percent (141,580) were included in the final census address list (Owens, 2003). In LUCA 99, all 18,442 appealed addresses were added to the MAF after approval by the Census Address List Appeals Office, of which over 54 percent (10,053) were included in the final census address list (Owens, 2002).
- This assessment will focus on participation and submission rates for the LUCA Program in the 2008 Census Dress Rehearsal. The verification and feedback phase of the LUCA Program will not be covered in this assessment due to time constraints. The 2008 Census Dress Rehearsal LUCA program expects field verification feedback will be available from Address Canvassing in late July 2007. Thus, the outcomes of the LUCA-submitted addresses in the Address Canvassing operation will be examined in the Address Canvassing Assessment.
- During the 2008 Census Dress Rehearsal, the U.S. Census Bureau discovered that approximately 5,400 records were categorized as Group Quarters (GQs) during the LUCA program. These cases would have increased the Group Quarters Validation (GQV) workload by a factor of ten if they continued to GQV. Due to the discovery of these cases, a GQ name is required by a LUCA participant in order for the GQ to be considered for GQV during the Dress Rehearsal. During 2010, LUCA-source GQ records without a GQ name will be rejected and not processed. Many of the 5,400 records did not have a GQ name and will not automatically proceed to GQV. It is important to verify that the new procedures in place for handling such LUCA GQ records are effective. This cannot

be assessed until after Address Canvassing. It will be partially examined in the Address Canvassing assessment, but cannot be fully examined until the GQV operation occurs, which will follow the Address Canvassing operation.

VIII. Related Dress Rehearsal Assessments

The Address Canvassing Assessment for the 2008 Census Dress Rehearsal will examine the outcomes of the LUCA-submitted addresses in Address Canvassing operation. Addresses that were submitted by LUCA participants and validated through GEO processing are sent to Address Canvassing. The DSSD will examine the LUCA-source addresses coming out of Address Canvassing. The issue of the 5,400 GQs records will be examined in the Address Canvassing assessment, but cannot be fully examined until the GQV operation occurs, which will follow the Address Canvassing operation. The GQV Assessment will examine the LUCA-source records that pass on to the GQV operation.

IX. References

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U.S. Census Bureau, "2008 Census Dress Rehearsal Operation and System Plan", 2008 Census Dress Rehearsal Memoranda Series, No. 3, March 2, 2007.

US Census Bureau, "2010 Census LUCA Federal Register Notice Version 2.6", Federal Register Notice, December 20, 2006.

U.S. Census Bureau, "Local Update of Census Addresses (LUCA) Program Promotional Workshop, 2010 Decennial Census Program," Participant Guide, February 2007.

Appendix – Original Questions

1. Of the eligible state, local, and tribal governments, how many responded that they wanted to participate in the LUCA program? Of those that responded that they wanted to participate, how many provided updates? How many dropped out of the program?
2. Of the entities that wanted to participate, which option did they choose? Which participation (paper versus electronic) mode did they choose?
3. Did California and North Carolina participate in the state-level program? Which option did they choose? Did they provide any updates? Did either state drop out?
4. How many adds, corrections, deletions, duplicates, and nonresidential addresses did entities/states that chose Option 1 provide? What was the number of blocks that were challenged for non-city style addresses?
5. For those entities that chose Option 2 or 3, did they provide the files in the prescribed format? Were we able to process their file? How many records did these entities give us? How many new addresses did these entities give us?

Archiving Documentation Template

To aid in documenting project data in the archiving inventory, project managers should record the information requested below.

Key Project Information	
Project name	
Project contact person	
Division/Branch responsible for project	
Project group (e.g. Census 2000 Evaluations)	
Project overview	
Limitations of data (if any)	
Project Start Date	
Project End Date	

Key Technical Information	
File name(s) and brief description	
Date created	
Location of files	
Operating system & version	
File format(s) (e.g. ASCII, SAS, etc.)	

Confidentiality	
Legal titles governing storage and use of data (if any)	
Additional provisions governing use of data (e.g. adherence to MOU, need for permission from non-Census survey sponsor, etc.)	

Data Flow - Programs associated with dataset(s)	
Name, location and description of programs used to create dataset(s)	
Name, location, format, and layout of input/output data files	
Script names (if applicable)	
Metadata such as layouts, flowchart(s) and data dictionary	

Additional Information	
Archive Date	
Expire Date	
Other Information	

2008 Census Dress Rehearsal Local Update of Census Addresses (LUCA) Assessment Report

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

Christine Gibson Tomaszewski
Decennial Statistical Studies Division

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

Helping You Make Informed Decisions

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Executive Summary

The U.S. Census Bureau conducted the 2008 Census Dress Rehearsal Local Update of Census Addresses (LUCA) program in both 2008 Census Dress Rehearsal sites. The Census Bureau invited governments to participate by June 19, 2006 and updated the Census Bureau's address list with the governments' address submissions by December 29, 2006. Governments interested in LUCA could choose one of three participation options:

1. Option 1 – Title 13 Full Address List Review
2. Option 2 – Title 13 Local Address List Submission
3. Option 3 – Non-Title 13 Local Address List Submission

All governments participating in the 2008 Census Dress Rehearsal LUCA program received an address count list and maps of their jurisdictions and were eligible to make updates and corrections to the features and boundaries on the maps. All participants could submit block-geocoded, city-style addresses to the Census Bureau. Only city-style addresses were accepted because of difficulties associated with matching non-city-style addresses via computer software. There is no appeals process in the 2008 Census Dress Rehearsal LUCA program.

The 2008 Census Dress Rehearsal LUCA program was different in scope and implementation from the two LUCA operations (LUCA 98 and LUCA 99) conducted for Census 2000. In LUCA 98, governments could submit city-style address updates for any blocks in their jurisdiction where the Census Bureau used the mailout/mailback enumeration method. In LUCA 99, governments could challenge block counts for any blocks in their jurisdiction where the Census Bureau used the update/leave or update/enumerate enumeration method.

This 2008 Census Dress Rehearsal LUCA assessment report addresses participation, submissions, and processing of the submissions. The 2008 Census Dress Rehearsal Address Canvassing assessment report will document the verification of submissions.

Did the LUCA program enlist government participation and in what form did they participate?

Yes, the LUCA program enlisted government participation. Seventy-one percent of eligible governments participated in the 2008 Census Dress Rehearsal LUCA program. Sixty-eight percent of those who participated chose Option 1, 18 percent chose Option 2, and 14 percent chose Option 3. Only small Option 1 governments could choose paper address lists, and half of the 20 small Option 1 participants chose paper address lists. All other participants received electronic address data. Small governments were more likely to choose paper maps, while medium and large governments were more likely to choose electronic maps.

What updates did participating governments provide?

Nearly 80 percent of participants provided address, feature, and/or boundary updates that the Census Bureau could process. About three percent of the 301,787 address list records submitted to the Geography Division were rejected due to geocoding errors. Of the records processed with an add action code, 51,689 (18 percent) were true adds or, in other words, they did not match to records in the Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) database. The Geography Division coded 1,083 addresses as deletes.

What level of effort was needed to process governmental entity updates?

Governments frequently returned materials close to or after the 120-day deadline, and most materials had errors in format or content, which had to be fixed before the materials could be processed. The regional offices “preprocessed” submissions by checking for format or content errors and working with the governments to fix those errors before sending the submissions to the Geography Division. The average time to fix the errors in a submission ranged from 1.7 to 2.7 hours and varied by the government’s participation option.

What were the lessons learned by the Geographic Programs Operational Integration Team during the 2008 Census Dress Rehearsal LUCA program?

All of the shapefile submissions the Census Bureau received had at least a portion of the updates fail a batch update process. Some formatting and password processes needed to be corrected.

The Census Bureau has developed preprocessing software and “MAF/TIGER Partnership Software” for the 2010 LUCA program and plans to operate a LUCA Help Desk to assist governments during the 2010 LUCA. These measures were not in place to be assessed in 2008, but are expected to reduce errors in governmental submissions and ease the processing of those submissions.

1. Introduction

1.1 2008 Census Dress Rehearsal

The 2008 Census Dress Rehearsal is a critical part of the U.S. Census Bureau's plans to ensure an accurate count of the nation's increasingly diverse and rapidly growing population. The Dress Rehearsal is the first opportunity to apply what has been learned from census tests that have been conducted throughout the decade in preparation for the nation's once-a-decade population census.

The 2008 Census Dress Rehearsal will be held in two sites: San Joaquin County, California, and a nine-county area surrounding Fayetteville, North Carolina:

San Joaquin County: This California county was selected because it presented an urban location with a multilingual population and an assortment of group quarters housing, such as college dorms and nursing homes.

Fayetteville and the surrounding area: This North Carolina region is a mix of both urban and suburban areas and has two military bases (Fort Bragg and Pope Air Force Base). The following nine counties are included in the site: Chatham, Cumberland, Harnett, Hoke, Lee, Montgomery, Moore, Richmond, and Scotland.

Implementation of a dress rehearsal supports the Census Bureau's 2010 Census Strategic Goals, especially in reducing operational risk and improving the accuracy of census coverage.

See the [2008 Census Dress Rehearsal Memo 3](#), *2008 Census Dress Rehearsal Operation and System Plan*, for additional background on the dress rehearsal sites, the strategic goals, and the Assessment Program.

1.2 Dress Rehearsal Local Update of Census Addresses (LUCA) program

The purpose of this assessment is to report on the Local Update of Census Addresses (LUCA) program in the 2008 Census Dress Rehearsal. The 2008 Census Dress Rehearsal LUCA program is designed to utilize the expertise of tribal, state, and local governments to improve the accuracy and completeness of the Census Bureau's address list. As part of the 2008 Census Dress Rehearsal, the LUCA program was conducted to test procedures for the 2010 Census and refine budget and workload estimates for the 2010 Census. This assessment will report participation levels among the eligible governments and the workloads associated with those participation levels to inform plans for the 2010 Census.

Due the nature of the census test cycle and the timing of the 2008 Census Dress Rehearsal, one full assessment of the LUCA program is not practical, given the goal of informing plans for the 2010 Census. The main phases of the LUCA program include:

- solicitation for format of participation,

- receipt of submissions from governments,
- processing the submissions and adding them to the address frame,
- verification of the changes submitted in the Address Canvassing operation,
- providing feedback to participants, and
- governmental entity appeal of the feedback and resubmission.

If the 2008 Census Dress Rehearsal LUCA assessment wasn't conducted, and decision-makers waited until the end of the LUCA program to be informed, then it would be too late to make changes to the early phases of the program. Therefore, the assessment of the 2008 Census Dress Rehearsal LUCA operation is in two parts. This report addresses participation, submissions, and processing of the submissions. The 2008 Census Dress Rehearsal Address Canvassing assessment, which will be completed later this year, will document the verification process. Because the appeal phase will not occur in the 2008 Census Dress Rehearsal, the final two phases will not be assessed.

2. Background

The LUCA program was not conducted during the 2004 and 2006 Census Tests, however the Census Bureau did conduct a nationwide survey of potential customers in 2005 and a LUCA state pilot in 2006. Thus, it was important to assess the LUCA program during the 2008 Census Dress Rehearsal, noting the changes since 2000 and the planned changes between this LUCA program and the planned 2010 LUCA program.

The LUCA program is designed to provide tribal, state, and local governments the opportunity to review and update the Census Bureau's address list prior to the commencement of the decennial census, thereby ensuring accurate coverage of their jurisdictions. Public Law 103-430 (passed on October 30, 1994) permitted the Census Bureau, under strict confidentiality guidelines, to share the address list and, upon review and acceptance, add the new addresses and corrections to its Master Address File (MAF) (U.S. Census Bureau, Information Brochure, March 2006).

For Census Bureau statistical purposes, a government is defined as an organized entity subject to public accountability, whose officials are popularly elected or are appointed by public officials, and which has sufficient discretion in the management of its affairs to distinguish it as separate from the administrative structure of any other governmental unit. Among the types of local governments recognized by the Census Bureau are counties, municipalities, and townships (U.S. Census Bureau, Information Brochure, March 2006).

2.1 Census 2000 LUCA

The LUCA program for Census 2000 was the first nationwide attempt to allow tribal and local governmental officials who signed confidentiality agreements to review address lists for their jurisdictions. Construction of the Census Bureau's Census 2000 address list was under development before 2000 and came in two parts, thus the LUCA program was done in two separate operations, LUCA 98 and LUCA 99. The two operations covered different types of addresses, city-style or non-city-style addresses, respectively. Many governmental jurisdictions included both city-style and non-city-style addresses and this forced those governments to participate in both LUCA operations.

City-style addresses contain a street name and a house number (for instance, 101 Main Street), may include an apartment number/designation or similar identifier, and may or may not be used for delivery of mail. Non-city-style addresses do not contain both a street name and a house number. Non-city-style may include physical descriptions, rural route and box number addresses, and highway contract addresses, which may include a box number, post office boxes and drawers, and general delivery (U.S. Census Bureau, Information Brochure, March 2006).

LUCA 98 was the operation for addresses in areas where the Census Bureau used the mailout/mailback enumeration method. For LUCA 98, where the addresses were primarily city-style, governments received address lists for LUCA 98 areas in their jurisdictions. During the LUCA 98 operation, 53 percent of governments eligible for LUCA 98 participated. They could correct, delete, identify addresses on the list as nonresidential, or add new addresses not on the list (Owens, 2003). Addresses submitted through the LUCA 98 program were field verified in either the Block Canvassing operation or the LUCA Field Verification operation. In LUCA 98, only 36 percent of governments eligible for LUCA 98 provided any address updates. LUCA 98 participants added 5,302,094 addresses to the MAF, of which 58 percent were confirmed to exist in either the Block Canvassing operation or in the LUCA Field Verification operation (Owens, 2003).

LUCA 99 was the operation for addresses in areas where the Census Bureau used update/leave or update/enumerate enumeration methods. During the LUCA 99 operation, 36 percent of eligible governments participated. Since addresses in LUCA 99 were primarily non-city-style (rural routes, location descriptions, and post office boxes), participating governments reviewed block counts of housing units in their jurisdiction. The Census Bureau recanvassed all areas that the participating governments identified as having incorrect housing counts (Owens, 2002). In LUCA 99, 17 percent of eligible governments challenged block counts, which was their only option to affect the Census Bureau's address list since the blocks eligible for LUCA 99 contained non-city-style addresses. LUCA 99 participants challenged 117,073 blocks and about 53 percent of the challenged blocks yielded adds (Owens, 2002).

In 2002, the Census Bureau hired ITS Services, Inc., to survey governments eligible for the LUCA program. This survey queried participants and non-participants in LUCA 98 and LUCA 99 on their satisfaction with LUCA 98 and LUCA 99, as well as their interest in future participation in LUCA. The results were published as "Results of the Survey of Selected Governments Eligible for the Local Update Of Census Addresses (LUCA) Program" on March 29, 2002 (ITS Services, 2002). Table 1 shows the percent of governments interested in participating in the 2010 LUCA program (by their Census 2000 population and their participation in the Census 2000 LUCA program).

Table 1. 2002 Governmental Interest in 2010 LUCA by Prior Participation in Census 2000 LUCA and Census 2000 Population

Participation in Census 2000 LUCA Program	Census 2000 Population						Total
	Small 0-499	500- 2,499	2,500- 9,999	10,000- 49,999	50,000- 249,999	Large 250,000+	
Non-Participants	55.4%	58.8%	71.8%	79.1%	84.3%	75.0%	68.0%
Participants without Updates	73.1%	83.6%	85.5%	93.2%	96.8%	90.0%	88.8%
Participants with Updates	81.3%	94.7%	90.9%	97.0%	97.0%	100.0%	94.4%
Total	60.7%	68.0%	77.4%	86.3%	92.4%	88.4%	77.6%

Data Source: Table 8 “Future Interest by Participation and Population.” ITS Services, Inc., “Results of the Survey of Selected Governments Eligible for the Local Update of Census Addresses (LUCA) Program,” page 13, March 29, 2002.

Overall, these data show continued governmental interest in the LUCA program, particularly among large governments that participated in the Census 2000 LUCA program.

2.2 LUCA Census Tests

The LUCA programs planned for the 2004 and 2006 Census Tests were cut. The LUCA program for the 2004 Census Test was cut for budgetary reasons. In the 2006 Census Test, a decision had been made to only include governments entirely within the 2006 Census Test sites in the LUCA program. Due to the small number of governments entirely within the 2006 Census Test sites, the Census Bureau cancelled the LUCA program for the 2006 Census Test (Johanson, 2006).

Instead of a LUCA program for the 2006 Census Test, a 2005 LUCA Survey was conducted, querying a nationwide sample of governments on their preferences and interest in LUCA for the 2010 Census. Topics covered included:

- 2010 Census LUCA participation options,
- 2010 Census LUCA products and media types,
- Technologies available for address list and map improvement,
- Communicating with the Census Bureau, and
- 2010 Census LUCA training options.

Four 2005 LUCA Survey questions provided information relevant to this assessment. For each of the four questions, the totals and breakdown of the results by governmental unit (GU) size (population count during Census 2000) are shown in the following tables. For the 2005 LUCA Survey, a sample of 3,501 governments was selected out of the 38,699 eligible governments. The survey response rate was 49 percent (1,693 governments).

In Table 2, the answers on participation option preference are given by government size (population count from Census 2000). The participation options for the 2005 survey are the same as those used for the 2008 Census Dress Rehearsal LUCA program (see Section 2.3 below). The participation interest question had a 79 percent response rate (21 percent nonresponse rate). Overall, 66 percent

of responding governments preferred Option 1 in the 2005 Survey. The remaining third of governments were split between preferring Option 2 (18 percent) and Option 3 (16 percent).

Table 2. "2005 Interest in LUCA Options by 2000 Population"

Government Size by 2000 Population Count	Option Most Preferred		
	Option 1 Full Review	Option 2 Address Submission	Option 3 Non Title 13
Large (50,000+)	70.80%	21.20%	7.50%
Medium (2,500-49,999)	70.77%	16.62%	12.81%
Small (0-2,499)	63.23%	17.92%	18.32%
Total	66.04%	17.66%	16.01%

Data Source: Table 8 "LUCA Options by GU Characteristics." Johanson, Carrie, "Local Update of Census Addresses (LUCA) Survey Results," 2010 Planning Memoranda Series, No. 49, page 8, April 25, 2006.

In Table 3, the answers on address list format preference are given by government size (population count during Census 2000). Overall, about half (48 percent) of governments preferred paper address lists in the 2005 Survey. The other half of governments preferred electronic address list formats, with most of those governments preferring computer-based lists (37 percent), and the rest preferring computer-readable lists (15 percent). Smaller governments were far more likely to prefer paper address lists (62 percent) over electronic address lists, while large governments rarely preferred paper address lists (5 percent). Over half of the large (53 percent) and medium (52 percent) governments preferred the computer-based address list.

Table 3. "2005 Interest in Address List Format by 2000 Population"

Government Size by 2000 Population Count	Paper	Electronic	
		Computer Readable	Computer Based
Large (50,000+)	5.44%	41.12%	53.45%
Medium (2,500-49,999)	24.52%	22.62%	52.47%
Small (0-2,499)	61.69%	9.62%	28.46%
Total	47.93%	14.93%	36.87%

Data Source: Table 9 "Address List Format by GU Characteristics." Johanson, Carrie, "Local Update of Census Addresses (LUCA) Survey Results," 2010 Planning Memoranda Series, No. 49, page 9, April 25, 2006.

In Table 4, the answers on map product format preference are given by government size (population count during Census 2000). Overall, most (62 percent) governments preferred paper maps in the 2005 Survey. The rest of the governments preferred electronic map formats, with most of those governments preferring census software that allows governments to view and update maps (22 percent), and the rest preferring Topologically Integrated Geographic Encoding and Referencing (TIGER) maps (7 percent) or Portable Document Format (PDF) maps (9 percent). TIGER maps are from the MAF/TIGER database. Smaller governments were far more

likely to prefer paper maps (74 percent), medium governments were less likely to prefer paper maps (41 percent), and large governments rarely preferred paper maps (11 percent). Smaller governments rarely preferred TIGER maps (less than 1 percent), while over half of the large (52 percent) governments preferred TIGER maps.

Table 4. "2005 Interest in Map Format by 2000 Population"

Government Size by 2000 Population Count	Paper	Electronic		
		TIGER	PDF	Census Software
Large (50,000+)	10.99%	51.90%	8.70%	29.48%
Medium (2,500-49,999)	40.75%	15.44%	11.43%	32.87%
Small (0-2,499)	74.59%	0.60%	7.90%	16.90%
Total	61.63%	7.25%	9.01%	22.30%

Data Source: Table 10 "Address List Format by GU Characteristics." Johanson, Carrie, "Local Update of Census Addresses (LUCA) Survey Results," 2010 Planning Memoranda Series, No. 49, page 10, April 25, 2006.

In Table 5, the answers on interest in participating in the 2010 LUCA program are given by government size (population count during Census 2000). Overall, very few (8 percent) governments indicated that they were NOT likely to participate in the 2010 LUCA program. The rest of governments were split between yes (likely to participate in the 2010 LUCA program) (45 percent), and 'not enough information at this time' (47 percent). Large governments were most likely to plan to participate in the 2010 LUCA program (73 percent).

Table 5. "2005 Interest in Participating in 2010 LUCA by 2000 Population"

Government Size by 2000 Population Count	Yes	Not enough information ; this time	No
	Large (50,000+)	72.62%	24.41%
Medium (2,500-49,999)	54.85%	41.54%	3.61%
Small (0-2,499)	39.14%	50.91%	9.95%
Total	45.26%	46.99%	7.75%

Data Source: Table 23 "2010 Participation by GU Characteristics." Johanson, Carrie, "Local Update of Census Addresses (LUCA) Survey Results," 2010 Planning Memoranda Series, No. 49, page 24, April 25, 2006.

In Census 2000, state governments were not allowed to formally participate in the LUCA programs, though states could assist local governments. Based on recommendations following Census 2000's LUCA programs, the Census Bureau worked with Wisconsin and Indiana to conduct a state LUCA program pilot test in select counties of Indiana and Wisconsin. This was the first look into the feasibility of allowing state participation in LUCA. Staff from the Geography Division (GEO) conducted a field operation to verify the address lists submitted by Wisconsin and Indiana. They validated 70 percent of the Wisconsin adds and 55 percent of the Indiana adds (Franz and Pfeiffer, 2006). The overall yield rate of 59 percent was similar to the nationwide results for Census 2000 (in LUCA 98 and LUCA 99) (Franz and Pfeiffer, 2006).

2.3 2008 Census Dress Rehearsal LUCA

The 2008 Census Dress Rehearsal LUCA program was conducted in both 2008 Census Dress Rehearsal sites: San Joaquin County, California and a nine-county area surrounding Fayetteville, North Carolina. The Census Bureau invited governments to participate on June 19, 2006 and updated the MAF/TIGER database with their submissions by December 29, 2006. The 2008 Census Dress Rehearsal LUCA program was different in scope and implementation from the LUCA program conducted for Census 2000. Governments interested in LUCA could choose one of three participation options:

1. Option 1 – Title 13 Full Address List Review
2. Option 2 – Title 13 Local Address List Submission
3. Option 3 – Non-Title 13 Local Address List Submission

All governments participating in the 2008 Census Dress Rehearsal LUCA program received an address count list and maps of their jurisdictions and were eligible to make updates and corrections to the features and boundaries on the maps. Option 1 and 2 participants were required to sign confidentiality agreements in order to view the Census Bureau's Title 13 address list for their jurisdiction. The address list included both city-style and non-city-style addresses. All participating governments could choose paper or electronic maps, also known as shapefiles. Governments edited a shapefile by using a Geographic Information System (GIS) software program, if they owned such a program.

Option 1 participants could correct, delete, or mark as duplicate or nonresidential any city-style address on the Census Bureau's address list. For each block in their jurisdiction, Option 1 participants could either update the city-style addresses or challenge the block count. They could also add block-geocoded³, city-style addresses to the list. Only city-style addresses were accepted for Option 1, as with all options in the LUCA program, because of difficulties associated with duplication and complications related to matching rural-style addresses via computer software.

Option 1 participants with fewer than 6,000 addresses in their jurisdiction could request paper or electronic address lists. Option 1 participants with more than 6,000 addresses in their jurisdiction and Option 2 participants could only receive electronic address lists (U.S. Census Bureau, Participant Guide, February 2007).

Option 2 participants viewed, but could not make corrections to the Census Bureau's address list. They submitted their own electronic address list of geocoded, city-style addresses. Option 3 participants also submitted an electronic address list of geocoded, city-style addresses, but could not view the Census Bureau's address list. The addresses on the Option 2 and 3 participants' lists were matched to the Census Bureau's address list. By design, neither Option 2 nor Option 3 participants were permitted to challenge block counts.

After the Address Canvassing Operation, all governments participating in the 2008 Census Dress Rehearsal LUCA program will receive "feedback" from the Census Bureau on their changes to the

³ Geocoded addresses identify a Census block where the address is located. This is a critical piece of information because every person counted in the Census must be associated with a specific block.

address list. “Feedback” consists of providing updated maps and block counts for all participants and updated address lists for participating governments who signed confidentiality agreements.

For the 2010 Census LUCA program, Option 1 and 2 participants will be eligible for the appeals process. The appeals process is where participants who disagree with the feedback on their address list updates can request, through an independent appeals office, that addresses not found during the Address Canvassing operation be added to the Census Bureau's address list. There will be no appeals process in the 2008 Census Dress Rehearsal (see Section 4).

Since Option 3 participants did not sign confidentiality agreements, they were not eligible to see the Census Bureau's address list and thus cannot receive “feedback” on their address list. For the same reasons, they cannot participate in the appeals process during the 2010 Census LUCA program. Option 3 participants will only receive updated maps and block counts as “feedback.”

3. Methodology

3.1 Questions to be Answered

The following questions were selected and presented in the 2008 Census Dress Rehearsal LUCA Assessment Study Plan:

1. Did the LUCA program enlist government participation and in what form did they participate?
 - 1a. Of the eligible tribal, state, and local governments, how many participated in the LUCA program? By size of governmental unit (number of housing units)?
 - 1b. Below the state level, what percent of the housing units were covered by LUCA participants? What percent of the blocks were covered by LUCA participants?
 - 1c. How many participants officially dropped out of the program?
 - 1d. Of the governments that participated, which option did they choose?
 - 1e. Which media (paper versus electronic) did they choose for maps and address lists?
 - 1f. Of those that participated, how many governments provided address, feature, and/or boundary updates?
 - 1g. Of the governments that participated, how many days passed between when we sent materials and when we received updates?
 - 1h. Did California and North Carolina participate in the state-level program?
 - 1i. Did either state officially drop out?
 - 1j. Which option(s) did California and North Carolina choose?
 - 1k. Did either state provide any address, feature, and/or boundary updates?
2. What updates did participating governments provide?
 - 2a. Of the records processed by the GEO, how many records were rejected by the GEO due to insufficient information (for example, no geocodes)?

- 2b. Of the records processed by the GEO, how many adds, corrections, deletions, duplicates, and nonresidential addresses did governments that chose Option 1 provide?
- 2c. What was the number of blocks that were challenged? What percent of the blocks were challenged in each jurisdiction?
- 2d. For those governments that chose Option 2 or 3, how many address list records did these governments give us?
- 2e. How many new addresses did these governments give us, prior to Address Canvassing?
- 3. What level of effort was needed to process governmental entity updates?
 - 3a. Did participants provide the address list files in the prescribed format? By option?
 - 3b. Did any problems occur during preprocessing and how much time did it take to fix them?
- 4. What were the lessons learned by the Geographic Programs Operational Integration Team during the 2008 Census Dress Rehearsal LUCA program?

3.2 Methods

Questions 1 and 2 were answered using total participation and submission government-level tallies from the GEO that were created during the 2008 Census Dress Rehearsal LUCA program and the updating of the MAF/TIGER database. The participation tallies came from the GEO's LUCA Production and Control System and Geographic Program Participant System. The submission tallies came from the MAF/TIGER update. The Decennial Statistical Studies Division (DSSD) separated the tallies into categories by option, participation type, and size of government.

For question 3 regarding preprocessing times and difficulties, the Field Division (FLD) provided data on regional office preprocessing difficulties and estimates on regional office preprocessing time. The regional offices "preprocessed" submissions by checking for format or content errors and working with the governments to fix those errors before sending the submissions to the GEO. The qualitative answers to this question assessed whether or not the participating governmental entities provided their updates in the required format, so that the GEO could apply the updates to the MAF/TIGER database. The resources required to fix the problems encountered were used to describe the effort needed to process the submissions in order to help in planning for the 2010 LUCA program.

These questions were asked for documentation purposes to provide information on workloads to assist in planning for future LUCA programs. We used the quantitative results from sub-questions, along with appropriate comparisons to previous data (such as LUCA 98 and LUCA 99), to answer the high-level questions.

The Geographic Programs Operational Integration Team (GP OIT) provided the Lessons Learned to the DSSD related to the LUCA program. The GP OIT coordinated lessons learned by the divisions involved in the 2008 Census Dress Rehearsal LUCA program, and gave the DSSD lessons learned documentation.

3.3 Participation

Participation was defined to mean that a government submitted a registration form, chose a participation option, chose a map media type, chose an address list media type (if Option 1), signed the LUCA confidentiality agreement (if Option 1 or 2), and signed the LUCA self-assessment checklist (if Option 1 or 2).

‘Officially dropped out’ meant that the government notified the Census Bureau that they were no longer participating in LUCA and returned or destroyed their materials. Dropouts are included in the participation numbers.

Where comparisons are made between the 2008 Census Dress Rehearsal LUCA program and the LUCA 98 and LUCA 99 programs, recall that one government could have been in both LUCA 98 and LUCA 99. Thus numbers and percents from LUCA 98 and LUCA 99 cannot be added together.

3.4 Size of Government

The GEO provided the number of addresses contained within the jurisdictions of each government in the Dress Rehearsal sites. These address numbers represent the housing unit counts that were sent to the governments participating in the 2008 Census Dress Rehearsal LUCA program. Three size categories were initially defined (small, medium, large) to match with the categories for governmental size used in LUCA 98 and LUCA 99. However, only governments containing fewer than 6,000 addresses can request either a paper address list or an electronic address list, as previously mentioned in Section 2.3 above. Thus, all governments with fewer than 6,000 addresses were grouped into the ‘small’ category. Governments with 6,000 to 99,999 addresses were considered medium and governments with 100,000 addresses or more were considered large. Four large governments, 17 medium governments, and 41 small governments were located in the Dress Rehearsal sites and thus eligible for the 2008 Census Dress Rehearsal LUCA program.

3.5 Blocks

Current blocks were used in the 2008 Census Dress Rehearsal LUCA program. Current blocks include both visible boundaries, such as streets, and invisible boundaries, such as city jurisdictional lines.

3.6 Applying Quality Assurance Procedures

We applied Census Bureau standards and quality process procedures throughout the creation of this report. They encompassed how we determined evaluation methods, created specifications for project procedures and software, designed and reviewed computer systems, developed clerical and computer procedures, analyzed data, and prepared this report.

4. Limitations

- The 2008 Census Dress Rehearsal results are based on two sites, that were purposely selected, and cannot be generalized to the entire United States.
- The 2008 Census Dress Rehearsal was not conducted in a decennial census environment and therefore results may not replicate the results to be obtained in the 2010 Census.
- The “MAF/TIGER Partnership Software” developed for the 2010 LUCA program was not used for the 2008 Census Dress Rehearsal LUCA program. The partnership software is a GIS software program that allows easy management of the electronic address lists and shapefiles by participating governments, and outputs data in a format that the Census Bureau can read and process. The assumption for the 2010 Census is that this software will reduce or eliminate some processing difficulties by ensuring that the electronic submissions from participants will automatically be properly formatted. This assessment will not document the impact this software will have on processing times, positively or negatively.
- The preprocessing software developed for the 2010 LUCA program was not used for the 2008 Census Dress Rehearsal LUCA program. The preprocessing software is a program that allows regional offices to preprocess electronic address submissions and rejects individual address records that do not fit the Census Bureau’s required format. The regional offices can then send only the acceptable records to the GEO. The assumption for the 2010 Census is that this software will reduce or eliminate some processing difficulties by ensuring that the electronic submissions received by the GEO from participants will be properly formatted with all required information. Incorrectly formatted or incomplete records will be rejected and, if time permits, sent back to the participants for correction. This assessment will not document the impact this software will have on processing times, positively or negatively.
- The Census Bureau did not operate a LUCA Help Desk during the 2008 Census Dress Rehearsal LUCA program. During the 2010 LUCA program, governments will be able to call the LUCA Help Desk for technical assistance with their submissions. The assumption for the 2010 Census is that the LUCA Help Desk will reduce or eliminate some processing difficulties by providing technical assistance to participants who have questions. This assessment will not be able to document the impact the LUCA Help Desk will have on processing problems, positively or negatively.
- There is no appeals process for the 2008 Census Dress Rehearsal LUCA program. Thus, we do not know the effects that the appeals process will have on the Nonresponse Followup (NRFU) workload for the 2010 Census. In LUCA 98, over 96 percent of the 313,853 appealed addresses were added to the MAF after approval by the Census Address List Appeals Office established by the Office of Management and Budget, of which 45 percent (141,580) were included in the final census address list (Owens, 2003). In LUCA 99, all 18,442 appealed addresses were added to the MAF after approval by the Census Address List Appeals Office, of which over 54 percent (10,053) were included in the final census address list (Owens, 2002).
- The verification and feedback phase of the LUCA program is not covered in this assessment due to time constraints. This assessment focuses on participation and submission rates for the LUCA program in the 2008 Census Dress Rehearsal. The 2008 Census Dress Rehearsal LUCA program expected field verification feedback to be available via Address Canvassing in late July

2007. Thus, the final disposition of the LUCA-submitted addresses in the Address Canvassing operation will be examined in the Address Canvassing assessment.

- No questions relating to LUCA feedback were identified in the 2008 Census Dress Rehearsal LUCA Assessment Study Plan.
- During the 2008 Census Dress Rehearsal, the Census Bureau discovered that approximately 5,400 records were flagged as Group Quarters (GQs) without a GQ name during the LUCA program. These cases would have increased the Group Quarters Validation (GQV) workload by a factor of ten if they remained in the GQV workload. Many of the 5,400 records did not proceed to GQV, as Address Canvassing listers identified them as housing units, not Other Living Quarters, during the Dress Rehearsal Address Canvassing Operation. Due to the discovery of these cases, a change was made to the intended universe of records entering the GQV Operation. A LUCA participant is required to submit a GQ name in order for their GQ record to be considered for the universe of GQV records during the Dress Rehearsal GQV Operation. During 2010, LUCA-source GQ records without a GQ name will be rejected and not processed. It is important to verify that the new procedures in place for handling such LUCA GQ records are effective. This cannot be assessed until after Address Canvassing. It will be partially examined in the Address Canvassing assessment, but cannot be fully examined until the GQV Operation occurs, which will follow the Address Canvassing Operation.
- The paper map products were generated using software no longer in use, rather than the current software. The 2010 LUCA mapping products will have a new look and feel and will be generated using a new process.
- Address list products were created from software no longer in use; the new MAF/TIGER software was not tested in the 2008 Census Dress Rehearsal LUCA program.
- The GEO was not able to fully test the production of products through all systems, as the address list products were created using manual processes that will not be used in the 2010 LUCA program.

5. Results

The following questions include all subquestions as presented in the study plan, and in Section 3.1 above, followed by data that answer each question.

5.1 Did the LUCA program enlist government participation and in what form did they participate?

Of the eligible tribal, state, and local governments, how many participated in the LUCA program? By size of governmental unit (number of housing units)?

Of the 62 governments eligible to participate in the 2008 Census Dress Rehearsal LUCA program, 44 governments responded that they wanted to participate in the LUCA program - nearly 71 percent of the eligible governments in the dress rehearsal sites. During the LUCA 98 operation, 53 percent of governments eligible for LUCA 98 participated. During the LUCA 99 operation, 36 percent of governments eligible for LUCA 99 participated. During the dress rehearsal for Census 2000, the city of Sacramento, the Menominee tribal government, and 52 percent of the 60 eligible governments in the South Carolina site participated. These governments accounted for 98 percent of the housing units in the South Carolina site and 100 percent of the housing units in the California and Wisconsin sites.

Table 6. LUCA Participation by Size of Government (Number of Housing Units in Governmental Jurisdiction)

Size of Government	Participating Governments (% of eligible governments)	Non Participating Governments (% of eligible governments)	Eligible Governments
Small (0-5,999)	25 (61%)	16 (39%)	41
Medium (6,000-99,999)	15 (88%)	2 (12%)	17
Large (100,000+ ¹)	4 (100%)	0 (0%)	4
Total	44 (71%)	18 (29%)	62

Data Source: Geography Division.

¹ Two of these four participating governments with over 100,000 addresses were the states of California and North Carolina.

As can be seen in Table 6, nearly 61 percent (25/41) of the governments containing fewer than 6,000 addresses chose to participate, approximately 88 percent (15/17) of governments containing between 6,000 and 99,999 addresses chose to participate, and 100 percent (4/4) of the governments containing 100,000 or more addresses chose to participate. These percentages match up well to the results on interest in future participation in LUCA obtained in the 2002 “results of the survey of selected governments eligible for the local update of census addresses (LUCA) program,” seen in Table 1 in Section 2.1. In the 2002 survey, 61-68 percent of small governments, 77-86 percent of medium governments, and 88-92 percent of large governments were interested in participating in 2010 LUCA.

The 2008 participation rates are higher than would have been expected based on the 2005 LUCA survey, which had a close split between ‘yes (likely to participate in 2010 LUCA)’ and ‘not enough information at this time (to decide whether to participate in 2010 LUCA)’. Very few governments (8 percent) in the 2005 survey chose ‘no’ when asked if they were likely to participate in 2010 LUCA. However, the 2005 survey did indicate that larger governments would be more likely to participate than smaller governments. See Table 5 in Section 2.2 for more detail on the 2005 interest in 2010 participation.

Below the state level, what percent of the housing units were covered by LUCA participants? What percent of the blocks were covered by LUCA participants?

Below the state level, all the counties, except one in the North Carolina site, participated. So 100 percent of the housing units and blocks in the California site had materials sent out to at least one participant. In the North Carolina site, one county did not participate, nor did the single incorporated government inside that county’s boundaries. The 2008 Census Dress Rehearsal LUCA program shipped materials covering almost 96 percent of housing units and just over 93 percent of blocks in the North Carolina site. During the LUCA 98 operation, 92 percent of eligible housing units were covered. During the LUCA 99 operation, 68 percent of eligible housing units were covered.

How many participants officially dropped out of the program?

Of the 44 governments who participated, two containing 0-5,999 addresses dropped out of the LUCA program. Both governments had chosen Option 1 participation.

Of the governments that participated, which option did they choose?

- There were 30 participants that chose Option 1 (68 percent of the participating governments), including two participants who dropped out.
- There were eight participants that chose Option 2 (18 percent of the participating governments).
- There were six participants that chose Option 3 (14 percent of the participating governments).

Table 7 shows the LUCA participation options chosen by the sizes of governments. There was a preference for Option 1 participation among all sizes of governments, though it was strongest among small and large governments. The overall numbers match closely with the results of the 2005 LUCA Survey, where 66 percent of governments preferred Option 1, 18 percent of governments preferred Option 2, and 16 percent of governments preferred Option 3. See Table 2 in Section 2.2 for more detail on the 2005 participation option preferences.

Table 7. LUCA Participation Option Chosen by Size of Government (Number of Housing Units in Governmental Jurisdiction)

Size of Government	Option 1 (% of row)	Option 2 (% of row)	Option 3 (% of row)	Total
Small (0-5,999)	20 (80%)	3 (12%)	2 (8%)	25
Medium (6,000-99,999)	7 (47%)	4 (27%)	4 (27%)	15
Large (100,000+)	3 (75%)	1 (25%)	0 (0%)	4
Total	30 (68%)	8 (18%)	6 (14%)	44

Data Source: Geography Division.

Note that the second row percentages do not add up evenly due to rounding.

Which media (paper versus electronic) did they choose for maps and address lists?

- Only small Option 1 governments could choose paper address lists, and half (ten) of the 20 small Option 1 participants chose paper address lists.
- The other ten small Option 1 participants received electronic address lists, along with all of the medium and large Option 1 participants. Thus a total of 20 Option 1 participants chose electronic address lists.
- All eight participants who chose Option 2 received electronic address lists.
- All six participants who chose Option 3 received electronic block count lists, but no address lists.

Looking at the small governments, 13 (52 percent) chose electronic lists, 10 (40 percent) chose paper lists, and two (8 percent) chose no list (Option 3 participation). More Option 1 participants chose electronic address lists than might be expected based on the results of the 2005 LUCA Survey, where 62 percent of small governments preferred paper address lists (48 percent overall). However, a paper address list was only available to governments with fewer than 6,000 addresses who chose Option 1 participation, which limited its distribution. See Table 3 in Section 2.2 for more detail on the 2005 address list preferences.

Table 8. Map Media Type Chosen by Government’s LUCA Participation Option

Type of map	Electronic maps	Paper maps	Total
Option 1	13	17	30
Option 2	5	3	8
Option 3	2	4	6
Total	20	24	44

Data Source: Geography Division.

As seen in Table 8, governments could choose paper or electronic maps in all three options. Slightly more option 1 and 3 governments chose paper maps over electronic maps, and slightly more option 2 governments chose electronic maps over paper maps. Table 9 shows map format chosen by size of government. Small governments were more likely to choose paper maps, while medium and large governments were more likely to choose electronic maps.

Twenty-four governments chose paper maps.

Twenty governments chose electronic maps.

Table 9. Map Media Type Chosen by Size of Government (Number of Housing Units in Governmental Jurisdiction)

Size of Government	No maps (non-Participants)	Electronic maps (% of Participants)	Paper Maps (% of Participants)	
Small (0-5,999)	16	4 (16%)	21 (84%)	41
Medium (6,000-99,999)	2	13 (87%)	2 (13%)	17
Large (100,000+)	0	3 (75%)	1 (25%)	4
Total	18	20 (45%)	24 (55%)	62

Data source: Geography Division.

As can be seen in Table 9, a slightly smaller percentage of governments chose paper maps (55 percent) than would be expected from the 2005 LUCA survey, where 62 percent of governments answered they would prefer paper maps. As the 2005 LUCA survey predicted, large and medium governments preferred electronic maps during the 2008 Census Dress Rehearsal LUCA program, and smaller governments preferred paper maps. See Table 4 in Section 2.2 for more detail on the 2005 map preferences.

Of those that participated, how many governments provided address, feature, and/or boundary updates?

Thirty-six (82 percent) of the 44 participants submitted address, feature, and/or boundary updates. Thirty participants submitted address lists (23 electronic and 7 paper). Two block count challenges were submitted without accompanying address lists. Thus there were thirty-two address updates. Challenging a block count is considered an address update, as it notifies the Census Bureau that our address list may need to be updated in that block. Four maps were submitted without accompanying address lists or block count challenges. That brings us to a total of thirty-six address, feature, and/or boundary updates. The number of participants submitting block count challenges, maps, electronic address lists, and paper address lists is shown in Table 10.

Note that Option 1 participants could submit any combination of maps, block count challenges, and either paper address lists or electronic address lists. For instance, four of the five governments that returned block challenges also returned updated maps. Two of the block challenges were submitted along with maps and paper address lists, and one along with both a map and an electronic address list. The other two block challenges were submitted without any accompanying address lists, one with a map, one without. Option 2 and 3 participants could submit maps, electronic address lists, or both.

Table 10. Type of LUCA Updates Provided by Size of Government (Number of Housing Units in Governmental Jurisdiction)

Size of Government	Participating Governments	Block Count Lists	Electronic Address Lists	Paper Address Lists	Map Updates
Small (0-5,999)	25	3	10	7	15
Medium (6,000-99,999)	15	0	12	0	8
Large (100,000+)	4	2	1	0	1
Total	44	5	23	7	24

Data Source: Geography Division.

Note that the “Block Count Lists” and “Map Updates” columns are not mutually exclusive with each other or the “Address Lists” columns. While no entity submitted both paper and electronic address lists, each government may have submitted a combination of address list, block challenge, and maps. Only Option 1 governments could submit block challenges and only small governments with fewer than 6,000 addresses in their jurisdiction could submit paper address lists.

Two of the 36 participants who submitted updates did not return electronic address lists that could be processed – one was an Option 3 government with 0-5,999 addresses and the other was an Option 2 government with 6,000-99,999 addresses. The Option 3 government submitted paper boundary updates that were processed. Overall, 35 of the 44 participants (nearly 80 percent) provided address, feature, and/or boundary updates that the Census Bureau could process. When considering all eligible governments in the Dress Rehearsal sites, over 56 percent (35 out of 62 eligible governments) provided address, feature, and/or boundary updates that the Census Bureau could process.

Eight participants did not submit any updates, including the two participants who dropped out. Four participants only submitted maps, thus they provided feature and/or boundary updates with no address updates. It is unclear whether the governments that did not submit address updates were satisfied with their address lists.

Looking just at address updates, 30 of the 44 participants (68 percent) provided address updates that could be processed through either address lists and/or block challenges. Thus, 48 percent (30 out of 62) of all eligible governments in the Dress Rehearsal sites provided address updates. In LUCA 98, only 36 percent of governments eligible for LUCA 98 provided any address updates. In LUCA 99, 17 percent of eligible governments challenged block counts, which was their only option to affect the Census Bureau’s address list since the blocks eligible for LUCA 99 contained non-city-style addresses.

Of the governments that participated, how many days passed between when we sent materials and when we received updates?

Table 11. Type of LUCA Materials Returned by Time Periods to Return Materials

Time Periods to Return Materials	Block Count Lists	Electronic Address Lists	Paper Address List:	Maps
Before 115 Days	2 (40%)	4 (17%)	3 (43%)	4 (17%)
115 to 120 Days	0 (00%)	13 (57%)	1 (14%)	2 (08%)
More than 121 Days	3 (60%)	6 (26%)	3 (43%)	18 (75%)
Total Materials Returned	5 (100%)	23 (100%)	7 (100%)	24 (100%)

Data Source: Geography Division.

As can be seen in Table 11, few materials were submitted early, the majority (13 of 23) of the electronic address lists arrived during the 5 days before or on the 120-day deadline, and the majority of the maps (18 of 24) came in after the 120-day deadline. Overall, 58 percent (21 of 36) of governments returned materials from one to 22 days late. There was no pattern relating the return times to either the sizes of governments or their participation options. If many 2010 materials arrive close to the deadline or late, the Census Bureau might have difficulties processing all submissions. This will be especially important if materials have errors in format or content that need to be fixed before processing. Format or content problems found during the Dress Rehearsal are discussed in Section 5.3. When materials arrived at the regional offices, personnel examined the materials for format and content problems before passing them to headquarters for processing. It was sometimes necessary to call the government who had submitted the materials and ask them to resubmit materials. The time periods in Table 11 indicate times for initial receipt of materials, and do not reflect the additional time needed to receive corrected materials. The GEO has developed preprocessing software to catch the types of errors found in the electronic Dress Rehearsal submissions. This software is intended for the regional offices to use during the 2010 LUCA program to catch electronic errors that need to be corrected by the participating governments. Since this software was designed based on problems found during the Dress Rehearsal, it was not tested during the Dress Rehearsal and could not be assessed.

Governments were given 120 days to return their materials.

Governments took 98 to 137 days to return block count lists, with a mean return time of 115.0 days.

Governments took 94 to 135 days to return electronic address lists, with a mean return time of 119.0 days.

Governments took 89 to 137 days to return paper address lists, with a mean return time of 114.4 days.

Governments took 98 to 142 days to return maps, with a mean return time of 126.6 days.

Did California and North Carolina participate in the state-level program?

California and North Carolina did participate in the state-level program.

Did either state officially drop out?

Neither California nor North Carolina officially dropped out.

Which option(s) did California and North Carolina choose?

California chose Option 2. North Carolina chose Option 1.

Did either state provide any address, feature, and/or boundary updates?

California provided address updates (70,379 address records) but did not provide feature or boundary updates. North Carolina provided no updates.

5.2 What updates did participating governments provide?

The combined address list records submitted to the GEO included 301,787 records, of which 293,307 (97 percent) were successfully processed and 8,480 (3 percent) were rejected. Only Option 1 participants submitted action codes (such as change or delete) along with their address records. Address list records from Option 2 and 3 participants were treated as though they had add action codes. All records with an add action code were compared to records in the MAF/TIGER database to see if the records were new addresses, or matched to the Census Bureau's address list.

The 293,307 records successfully processed by the GEO can be categorized as follows:

- 287,497 non-duplicate actions (98 percent of records successfully processed by the GEO)
 - 280,247 total adds (97 percent of non-duplicate actions)
 - 51,689 new adds that did not match to records in the MAF/TIGER database (18 percent of add actions)
 - 1,792 adds that matched to deleted records in the MAF/TIGER database (1 percent of add actions)
 - 226,766 adds that matched to non-deleted records in the MAF/TIGER database (81 percent of add actions)
 - 1,083 delete actions (less than 1 percent of non-duplicate actions)
 - 296 actions that indicated an address was not within the jurisdiction of the government that received that address record (less than 1 percent of non-duplicate actions)
 - 52 actions that changed a record that was previously identified as a residential housing unit to a nonresidential record (less than 1 percent of non-duplicate actions)
 - 5,819 total correction actions (2 percent of non-duplicate actions)
 - 351 house number corrections
 - 5,468 corrections that changed address information other than house numbers (such as the spelling of the street name)
- 5,810 duplicate actions, that were not applied (2 percent of records processed by the GEO)
 - 5,806 add actions that matched to another add action record (duplicate add actions)
 - Four change actions that matched to another change action record (duplicate change action)

Of the records processed by the GEO, how many records were rejected by the GEO due to insufficient information (for example, no geocodes)?

Table 12. Processing Rejection Reasons of LUCA Addresses by Rejection Code and Count of Rejections

Reject Reason	Count
Multiple non-add actions on same MAF ID	6
Add of a pre-existing unit with a MAF ID	0
Non-add action with a missing or illegal ² MAF ID	4
Blank or illegal ² action code	1
Missing House Number or Within-structure ID	62
Blank or Illegal ² Entity ID Code ³	9
Missing Block Code	1,534
Illegal ² Block Code	6,864
Duplicate non-add actions	0
Total Rejected Records	8,480

Data Source: Geography Division.

² Illegal means not valid. In these cases, it means that the MAF ID did not match to a MAF ID in the MAF/TIGER database, that the action code was not one defined by the Census Bureau, or that the block or entity code did not match to an existing block or entity code in the Dress Rehearsal site.

³ There is an anomaly with the blank or illegal entity ID code, as nine are listed above, but when the list is partitioned by participant code, there is one rejected record associated with a blank entity code and nine rejected records associated with illegal entity codes. It is possible for a record to have more than one type of error. Only the first error encountered would be recorded. The record with the blank entity code also had a blank action code, which caused the record to be rejected before the entity code was checked.

Of the 301,787 address list records processed by the GEO, there were 8,480 (3 percent) LUCA actions that were rejected and 293,307 (97 percent) that were successfully processed. As can be seen in Table 12, missing block codes comprised 1,534 of the 8,480 rejected records and illegal block codes comprised 6,864 of the 8,480 rejected records. Overall, geocoding errors comprised 99 percent (8,398 of 8,480) of the rejected records. The majority of the remaining errors were also due to insufficient information, as detailed in Table 12.

Of the records processed by the GEO, how many adds, corrections, deletions, duplicates, and nonresidential addresses did governments that chose Option 1 provide?

There were 20 Option 1 participants who returned updated address lists. After the GEO processed the updates, Option 1 participants provided

- 15,164 non-duplicate actions
 - 7,914 total adds
 - 4,980 new adds that did not match to records in the MAF/TIGER database (33 percent of non-duplicate actions)
 - 120 adds that matched to deleted records in the MAF/TIGER database (one percent of non-duplicate actions)
 - 2,814 adds that matched to non-deleted records in the MAF/TIGER database (19 percent of non-duplicate actions)

- 5,819 total correction actions (38 percent of non-duplicate actions)
 - 351 house number corrections
 - 5,468 corrections that changed address information other than house numbers (such as the spelling of the street name)
- 1,083 deletions (7 percent of non-duplicate actions)
- 52 actions that changed a record that was previously identified as a residential housing unit to a nonresidential record (less than 1 percent of non-duplicate actions)
- 296 actions that indicated an address was not within the jurisdiction of the government that received that address record (2 percent of non-duplicate actions)
- 83 duplicate actions, that were not applied
 - 79 duplicate adds
 - 4 duplicate corrections

In total, the GEO successfully processed 15,247 records and rejected 761 records from the total 16,008 records submitted by Option 1 participants.

What was the number of blocks that were challenged? What percent of the blocks were challenged in each jurisdiction?

Only Option 1 participants can challenge block counts. There were five Option 1 participants who challenged block counts. They challenged 2,886 blocks, which is a little over 17 percent of blocks contained inside the jurisdictions of the five governments that challenged blocks. Details for these numbers can be seen in Table 13. Foxfire Village and Wagram Town were among the governments that submitted block challenges; however most of their block challenges overlapped with address list updates they submitted for the same blocks. Governments were not allowed to update address lists and challenge block counts in the same block. After Foxfire Village and Wagram Town were reminded of these constraints, they opted to keep the address list updates rather than the block challenges in the overlapping blocks. As can be seen in Table 13, there was one block in Foxfire Village and two blocks in Wagram Town that did not have address list updates.

The total percentages can be misleading, as the San Joaquin and Cumberland counties dominate the total percentages due to the number of blocks they contain. As can be seen in Table 13, the percent of blocks updated during the LUCA program was: 67 percent for Ripon City, 40 percent for Foxfire Village, and 63 percent for Wagram Town.

Table 13. Block Count List Challenges by Option 1 LUCA Participants, including Counts of Blocks with Address List Updates

Entity Name	Blocks Challenged	Percent of Blocks Challenged	Blocks with Address List Updates	Percent of Blocks with Any Updates	Total Blocks
San Joaquin County (CA)	1,656	17	0	17	10,021
Cumberland County (NC)	1,177	19	0	19	6,286
Ripon City (CA)	50	23	98	67	222
Foxfire Village ⁴ (NC)	1	3	15	40	40
Wagram Town ⁴ (NC)	2	3	38	63	63
Overall Totals	2,886	17	151	18	16,632

Data Source: Geography Division and Field Division.

⁴ Note that Foxfire Village and Wagram Town submitted address list updates as well as block challenges for many of the blocks they challenged. They chose to keep the address list updates rather than the block challenges, so their original number of block challenges decreased.

For those governments that chose Option 2 or 3, how many address list records did these governments give us?

The GEO successfully processed 156,756 records (95 percent) and rejected 7,653 records from the total 164,409 records submitted by Option 2 participants. The GEO successfully processed 121,304 records (over 99 percent) and rejected 56 records from the total 121,360 records submitted by Option 3 participants.

How many new addresses did these governments give us, prior to Address Canvassing?

There were five Option 2 participants who submitted usable address lists. After the GEO processed these updates, there were

6. 156,725 non-duplicate address records (100 percent of records received by the GEO)
7. 25,697 new address records that did not match to records in the MAF/TIGER database (16 percent of non-duplicate address records)
8. 130,117 records matched to non-deleted addresses on the MAF/TIGER database (83 percent of non-duplicate address records)
9. 911 records matched to deleted addresses on the MAF/TIGER database (1 percent of non-duplicate address records)
10. 31 duplicate address records (less than 1 percent of records received by the GEO)

There were three Option 3 participants who submitted usable address lists. After the GEO processed these updates, there were

11. 115,608 non-duplicate address records (95 percent of records received by the GEO)
 - 21,012 new address records that did not match to records in the MAF/TIGER database (18 percent of non-duplicate address records)
 - 93,835 records matched to non-deleted addresses on the MAF/TIGER database (81 percent of non-duplicate address records)
 - 761 records matched to deleted addresses on the MAF/TIGER database (1 percent of non-duplicate address records)
- 5,696 duplicate address records (5 percent of records received by the GEO)

5.3 What level of effort was needed to process governmental entity updates?

Did participants provide the address list files in the prescribed format? By option?

All address lists returned had errors in either the format or content. Two participants returned address lists that were not correctable by the regional office and the participants did not resubmit a revised address list.

Did any problems occur during preprocessing and how much time did it take to fix them?

Many problems occurred, and specifics are detailed below. Table 14 shows the average time per government to process government submissions and to fix errors in those submissions by option and address list media. The regional offices “preprocessed” submissions by checking for format or content errors and working with the governments to fix those errors before sending the submissions to the GEO. As can be seen Table 14, the average time to process a submission per government was approximately one hour longer than the average time to fix the errors in the same submission. Also, submissions from Option 2 governments took, on average, about an hour longer to process than Option 1 and 3 submissions. These numbers can also be seen, with more detail, in tables A1 through A4 in Appendix A.

Table 14. Average Time Preprocessing Submissions and Fixing Errors per Government by Option and Address List Media

Governments by option and address list media	Average preprocessing time per government (hours)	Average time fixing errors per government (hours)
Option 1 – electronic address lists	2.7	1.7
Option 1 – paper address lists	2.9	1.9
Option 2	3.8	2.7
Option 3	3.0	2.0

Data Source: Field Division.

Problems included:

- Electronic address list file formatting problems
 - sending spreadsheet files instead of pipe delimited format
 - mixing tab delimited records with pipe delimited records in the same file
 - extraneous Option 1 fields in an Option 2 file
 - overlapping address updates and block challenges
 - submitting block counts for all blocks, rather than just those that were different from our counts

- Paper address list formatting errors
 - corrections placed on the add page
 - corrections made on post-it notes
- Errors assigning block geocodes to address lists
 - not including suffixing in the block numbers
 - improper block and tract numbers
 - ungeocoded records
 - block numbers in address list including a '*' as shown on the map (the '*' was not part of the block number and had to be removed)
- Errors in listing apartment complexes on address lists
 - location descriptions for all records but no information in apartment number fields
 - apartment descriptors in the street name field
 - apartment buildings listed without unit designators or the number of units
 - apartment fields containing '&'
 - records with ranges in the apartment number fields
- Errors recording address data
 - MAF IDs in scientific notation
 - corrupt MAF IDs
 - data in the wrong fields
 - records with the basic street address duplicated multiple times without apartment numbers
 - records with 'Y' for GQ but no GQ name (See Section 4)
- Map and boundary errors
 - structure points that were edited (not allowed)
 - insets in paper maps that were in wrong location
 - insets in paper maps that were not referenced to our maps
 - not submitting boundary changes to explain adds that were outside a government's original boundaries
 - errors in shapefiles that needed to be resubmitted
- Miscellaneous
 - a disk that melted in the mail

5.4 What were the lessons learned by the Geographic Programs Operational Integration Team (GP OIT) during the 2008 Census Dress Rehearsal LUCA program?

The GP OIT delivered the following items as their lessons learned from the 2008 Census Dress Rehearsal LUCA program:

- Census tract number formatting: Census tract numbers that the Census Bureau uses must contain the decimal point and trailing zeros. We must also require that participating governments return their updates using the same census tract-numbering format. In the Dress Rehearsal, we were seeing tract number '100' and we were not sure if it was tract 1.00 or tract 100.00.

- All of the shapefile submissions we received had at least a portion of the updates fail a batch update process. We saw a large number of added features that floated or overlaid existing features, which would have been kicked out of the batch updating process and would need to be resolved through interactive update (manually). The availability of the MAF/TIGER Partnership Software and the Environmental Systems Research Institute (ESRI)⁴ LUCA extension should resolve some of these problems.
- While we were able to provide support for some LUCA shapefile participants, we had problems giving one government the technical support they needed. Having the ESRI LUCA extension with the support through ESRI along with having a full-time help desk to resolve general LUCA problems should resolve this problem.
- Encryption of computer-readable address files provided an added measure of security.
- Password letters should be mailed out a week ahead of time and not after products are mailed.
- Password letters should be in a font that enables the recipient to easily distinguish between “1” (the number one) and “l” (the letter L), “0” (the number zero) and “O” (the letter O).

The Centralized MAF/TIGER Update Operations Branch provided a memorandum of lessons learned concerning the 2008 Census Dress Rehearsal LUCA map updates. Since the focus of this assessment is on address updates, their memorandum is included as Appendix B.

6. Related Dress Rehearsal Assessments

The Address Canvassing Assessment for the 2008 Census Dress Rehearsal will examine the outcomes of the LUCA-submitted addresses in the Address Canvassing operation. Addresses that were submitted by LUCA participants and validated through GEO processing are sent to Address Canvassing. The DSSD will examine the LUCA-source addresses coming out of Address Canvassing. The issue of the 5,400 GQs records (previously mentioned in Section 4) will be examined as part of the Address Canvassing assessment, but cannot be fully examined until the GQV operation occurs, which will follow the Address Canvassing operation.

The GQV Assessment will examine the LUCA-source records that pass on to the GQV operation, including the 5,400 questionable GQ records (see Section 4) that passed on to the GQV operation.

The Type of Enumeration Area (TEA) Delineation Assessment will examine how TEAs are delineated. Remote Update/Enumerate (TEA 3) is excluded from LUCA, due to the lack of Address Canvassing. The delineation of TEAs affects the LUCA frame and whether governmental entities in remote areas have a chance to offer feedback on the Census Bureau’s address list.

⁴ ESRI is a company that produces a GIS software package commonly used by many governments. They have independently developed an extension for their software so that it will produce shapefiles in a format that the Census Bureau can read. Their software was not part of this assessment.

7. Conclusions

Of the 62 governments eligible to participate in the 2008 Census Dress Rehearsal LUCA program, 44 governments participated in the LUCA program - nearly 71 percent of the eligible governments in the Dress Rehearsal sites. The 2008 Census Dress Rehearsal LUCA program shipped materials covering almost 96 percent of housing units and just over 93 percent of blocks in the North Carolina site and 100 percent of the housing units and blocks in the California site. Overall, 35 of the 44 participants (nearly 80 percent) provided address, feature, and/or boundary updates that the Census Bureau could process. The 2005 LUCA Survey indicated a possibly high level of participation, and correctly predicted the distribution of participation options chosen by participating governments.

These numbers are comparable to the Dress Rehearsal for Census 2000, in which the City of Sacramento, the Menominee Tribal government, and 52 percent of the 60 eligible governments in the South Carolina site participated. These governments accounted for 98 percent of the housing units in the South Carolina site and 100 percent of the housing units in the City of Sacramento and the Menominee Tribal government. These numbers compare favorably to the LUCA 98 program, which had a 53 percent participation rate and received updates from 36 percent of eligible LUCA 98 governments. During LUCA 98, materials were sent out covering 92 percent of the housing units in eligible areas. The Dress Rehearsal numbers also compare favorably to the LUCA 99 program, which had a 36 percent participation rate and received block challenges from about 17 percent of eligible LUCA 99 governments. During LUCA 99, review materials were sent out covering 67.9 percent of the housing units in eligible areas.

Of the address list records processed by the GEO, there were 8,480 (3 percent) LUCA actions that were rejected and 293,307 (97 percent) that were successfully processed. Missing block codes comprised 1,534 of the 8,480 rejected records and illegal block codes comprised 6,864 of the 8,480 rejected records. Overall, geocoding errors comprised 99 percent (8,398 of 8,480) of the rejected records. There were five Option 1 participants who challenged block counts. They challenged 2,886 blocks, which is a little over 17 percent of blocks contained inside the jurisdictions of the five governments that challenged blocks.

Governments frequently returned materials very close to or after the 120-day deadline. All address lists returned had errors in either the format or content. All of the shapefile submissions we received had at least a portion of the updates fail a batch update process. While this was a problem during the Dress Rehearsal, the “MAF/TIGER Partnership Software” that will be sent to participating governments in the 2010 LUCA program may help alleviate some of these problems if governments use the software. There will be a LUCA Help Desk operating during the 2010 LUCA program, which will provide technical help to governments that may also reduce errors in content or format. Additionally, the GEO developed preprocessing software that may help the regional offices catch and reject incorrect address records so the erroneous records can be sent back to the originating governments for revision. The LUCA Help Desk and software programs were not tested during the Dress Rehearsal and thus they could not be assessed.

8. Acknowledgements

Thanks to Amanda Hakanson for her assistance with SAS programs and her feedback on the assessment. Thanks to Karen Owens for her advice and comments on the report, and her terrific

LUCA 98 and LUCA 99 Evaluations. Thanks to Florence Abramson, Melissa Blevins, Bob Colosi, Nancy Johnson, Frank McPhillips, Karen Owens, Brad Price, and Justin Ward for their review(s) of the report. Thanks to Kathy Ott and Sandy Peterson for their assistance with SAS programs.

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Table A1. Time Preprocessing for Option 1 Participants with Electronic Address Lists

Name	Approximate Hours Spent on Fixing Problem	Total Approximate Preprocessing Hours	Percent of Time Spent on Fixing Problems
San Joaquin County	1.0	2.0	50
Cumberland County	2.0	3.0	67
Lee County	3.0	4.0	75
Montgomery County	2.0	3.0	67
Richmond County	2.0	3.0	67
Escalon	0.0	1.0	0
Lathrop	4.0	5.0	80
Ripon	1.0	2.0	50
Fayetteville city	2.0	3.0	67
Laurinburg	3.0	4.0	75
Southern Pines	1.0	2.0	50
Spring Lake	2.0	3.0	67
Stedman	1.0	2.0	50
Wade	1.0	2.0	50
Whispering Pines	1.0	2.0	50
Total	26.0	41.0	63
Average	1.7	2.7	63

Data Source: Field Division.

Table A2. Time Preprocessing for Option 1 Participants with Paper Address Lists

Name	Approximate Hours Spent on Fixing Problems	Total Approximate Preprocessing Hours	Percent of Time Spent on Fixing Problems
Foxfire	3.0	4.0	75
Hamlet	2.0	3.0	67
Pinebluff	3.0	4.0	75
Rockingham	2.0	3.0	67
Star	1.0	2.0	50
Vass	1.0	2.0	50
Wagram	1.0	2.0	50
Total	13.0	20.0	65
Average	1.9	2.9	65

Data Source: Field Division.

Table A3. Time Preprocessing for Option 2 Participants

Name	Approximate Hours Spent on Fixing Problems	Total Approximate Preprocessing Hours	Percent of Time Spent on Fixing Problems
California State	2.5	4.0	63
Harnett County	4.0	5.0	80
Moore County	4.0	5.0	80
Hoffman	2.0	3.0	67
Pinehurst	1.0	2.0	50
Total	13.5	19.0	71
Average	2.7	3.8	71

Data Source: Field Division.

Table A4. Time Preprocessing for Option 3 Participants

Name	Approximate Hours Spent on Fixing Problems	Total Approximate Preprocessing Hours	Percent of Time Spent on Fixing Problems
Chatham County	2.0	3.0	67
Cameron	1.0	2.0	50
Stockton	3.0	4.0	75
Total	6.0	9.0	67
Average	2.0	3.0	67

Data Source: Field Division.

Appendix B: Lessons Learned from the Centralized MAF/TIGER Update Operations Branch

MEMORANDUM FOR: The Record

FROM: Lauren Kirsch,
Geographic Specialist,
Centralized MAF/TIGER Update Operations Branch

SUBJECT: Lessons Learned: 2008 DR LUCA map updates

The purpose of this memo is to document the map updates to the MAF/TIGER database (MTdb) for the 2008 Dress Rehearsal (DR) Local Update of Census Addresses (LUCA) program. Due to software limitations, the operation was handled differently for DR than is planned for the 2010 LUCA program. This memo will summarize the DR process but will focus on lessons learned that are most applicable to the 2010 LUCA program.

Summary of 2008 DR LUCA spatial update processing

Approximately 10,850 boundary, feature, and address range updates were returned by the DR LUCA entities. Approximately 5,540 updates were successfully digitized between November 22 and December 29, 2006. These numbers are estimates because of variances in the way that features were counted, inconsistencies in the way that digitizers coded their updates, and double reporting of some updates by multiple entities. Some reasons for rejecting or not digitizing updates included: update did not make sense, update caused a coincidence error, update was unclear, update was prevented by a MID value, update violated feature update rules, and update was already in the MTdb. Please see the attached spreadsheet for detailed information about the updates.

The Centralized MAF/TIGER Update Operations Branch (CMTUOB) with help from Geo-Serv and the Linear Features and GPS Programs Branch (LFGPB) digitized all spatial updates submitted by entities participating in the DR LUCA program. Both paper returns and digital returns (participant provided GIS files) were inserted manually into the MTdb using the Geographic Acquis-based Topological Real-time Editing System (GATRES).

The primary issues encountered during DR LUCA digitizing were dealing with file quality, reconciling updates, dividing the work, and using the GATRES software and the new MAF/TIGER database for the first time in production.

Quality of Digital Files returned

The DR LUCA participants were given the option of returning spatial updates via paper maps or digital files. For the most part, the annotations on the paper maps were readable and easily understood. The most common problem with the paper returns were maps annotated with incomplete or conflicting address range information. This issue was resolved by not inserting the address or conducting additional research on the internet. Most of the problems with the digital files appeared to stem from the participants not adhering to instructions provided in the LUCA Program User Guide. Variances included marking feature changes with codes other than those listed in the guide or no code at all, not providing a Census Feature Classification Code

(CFCC) for new features, and making modifications to the linear boundaries instead of submitting a polygon file. One participant appeared to modify a file that was not the file that Census had sent as part of the LUCA package. This participant deleted features with TIGER/Line IDs that did not exist in the outgoing Census shapefile. The assigning and deleting of private roads (A74s) was another issue. One participant deleted a large number of private roads. We suspect that the participant's database did not contain privately owned roads and that s/he marked for deletion all of the features that did not match his/her file. Another participant assigned a CFCC of private road to many of the added roads. The digitizer questioned whether all of these roads were privately owned or whether the participant assigned the wrong code. She used her judgment to make these local neighborhood roads (A41/S1400). Digitizers sometimes used outside resources such as satellite imagery and historical TIGER benchmarks when they encountered confusing updates.

The current plan for 2010 is for digital files to be reviewed by Regional Office (RO) staff and inserted into TIGER using a batch process. The following are some recommendations and issues to consider based on the 2008 returns:

- Provide participants with simple and clear feature update rules. The 2008 guide contained conflicting instructions regarding submitting digital feature updates; this should be corrected. The Local Geographic Partnerships Branch is aware of this issue.
- Ensure that the RO review staff understands how the batch software will process the digital updates so that they can identify problems and explain to the participant why their updates may not go in as submitted.
- Thoroughly review files before submitting them to the batch process. At the least files should be checked to make sure they are in the standard projection, contain valid change codes, valid MAF/TIGER Feature Classification Codes, and valid feature names. A visual review of the updated features by the RO staff may also help to identify problems before the file is submitted to the batch process.
- How do we prevent features from being deleted that do actually exist? For example, a participant performs a match between their file and the Census file. They mark for delete all of the features that they do not maintain. Do we flag submissions with a specified threshold of deletes for further investigation?
- Digitizers encountered situations where they suspected that the participant had incorrectly coded a road as private. Is this issue worth more discussion or can we accept the classifications that participants give us without much concern? Currently, roads that are coded as private are not allowed to be collection block boundaries.
- How do we handle names submitted in a nonstandard format, i.e. "Oak St/Hwy 1"? The batch program will not know that the participant was probably indicating a primary and alternate name. Should the batch program reject names with particular characters?

Reconciling Updates

The 2008 LUCA program invited entities at both the county and place levels to participate; this resulted in duplicate updates submitted. Duplicate updates occurred in areas where the county and place both submitted digital returns and in areas where the county submitted a digital return and the place submitted a paper return. The CMTUOB reconciled the

differences between the digital files by comparing them using ArcGIS software. The differences between paper and digital returns were handled by giving both updates to one digitizer to reconcile before entering the updates into TIGER.

The plan for LUCA 2010 digitizing is for digital updates to be inserted into the MTdb in a batch process and to have the ROs and NPC manually digitize paper returns. Participants will return updates over the span of a year, so it is probable that updates will be inserted into the MTdb on a flow basis by different parties. The possibility of duplicate features being inserted into the MTdb is likely because paper participants and digital participants usually add the features in slightly different positions. For example, in DR LUCA a place level participant annotated on paper a neighborhood that had previously been deleted by the TIGER Improvement Program (TIP). The county level participant submitted the same neighborhood nearby in the spatially correct location. There may also be differences in feature placement between two digital or two paper submissions. It is advisable that this issue be taken into consideration when developing review procedures for RO geographers and planning the order/timing of the updates. Some questions to consider:

- Should updates be held until all of the participants with potentially overlapping submissions are received and reviewed? If not, how are conflicting or duplicate updates reconciled? Unless features are added exactly on top of one another, the batch update process will likely add duplicates.
- Should a duplicate edit be developed?
- What resources are the ROs authorized to use to reconcile conflicting updates, for example, the participants, internet map sites, personal knowledge?
- What TIGER viewing tools will be available for the RO staff to review files? Do they need a current version of TIGER to see how potential updates may affect current TIGER?

Dividing the work

The map updates were divided among digitizers in the CMTUOB, Geo-Serv, and the LFGPB. The majority of the feature updates received for DR LUCA 2008 was contained in the county level digital returns. The format of the new MTdb allowed multiple users to make updates to the same county. The areas were divided visually by clusters of updates. Digitizers used paper printouts or a selection of the digital shapefile as the source for their updates. A set of master shapefiles was then updated with the digitizer's name and an action code.

This process of dividing the work was inexact and the coding scheme was hastily put together and inconsistently used by the digitizers. If the digital files are digitized interactively again, it is recommended that a formal process of dividing the work and a comprehensive system of keeping track of the updates be developed.

Using the GATRES software and MAF/TIGER database

The DR LUCA operation was the first to utilize GATRES to make interactive updates to the MTdb. The instability of the software, unfamiliarity with the software, and problems with MAF/TIGER data made digitizing extraordinarily slow. Updates may have been added with less precision than they would have with legacy software due to limited functionality and slow performance of the software. On a positive note, the ability to have more than one digitizer update a county at one time allowed all available digitizers to work simultaneously. Legacy TIGER would have allowed only 10 users to work at the same time (1 per Dress Rehearsal county). The following are some issues to consider for 2010 LUCA digitizing:

- File management issues: A GATRES user locks the area of MAF/TIGER that they have extracted from the database. At this time we are unsure what size area a batch process will lock when it is updating MAF/TIGER. Currently there is no way to know who is in which geographic area at what time. There may be problems with update operations conflicting with each other.
- At this time, GATRES has no capability to view the data without locking it. Are there other tools available that will allow RO staff to review files and compare them to current TIGER?

The 2008 LUCA DR spatial updates were digitized in a different manner than will be used for the 2010 LUCA operation. However, the DR uncovered issues that may be relevant during 2010. This document will be shared with parties that have a stake in 2010 LUCA spatial updates so that they may review these issues. The CMTUOB will chair meetings with the relevant staff as we develop our 2010 LUCA digitizing procedures. We request that CMTUOB be included in discussions about the LUCA User Guide and RO Review procedures.

ASSESSMENTS REQUIRING STANDARD DEMOGRAPHIC TABLES:

- Nonresponse Followup and Vacant Delete Check
- Update/Enumerate, Remote Update/Enumerate, and Remote Alaska
- Coverage Followup
- Be Counted/Questionnaire Assistance Centers
- Bilingual Questionnaire
- Enumeration at Transitory Locations
- Group Quarters Enumeration
- Military Enumeration

ASSESSMENTS REQUIRING STANDARD ADDRESS TABLES:

- Address Canvassing
- Update/Enumerate, Remote Update/Enumerate, and Remote Alaska
- Field Verification
- Update/Leave
- Universe Control and Management/Response Processing System

**TABLE SHELL FOR ASSESSMENT STANDARD
DEMOGRAPHIC TABLES
ONE TABLE FORMAT**

Table XX. Standard Assessment Demographic Table

Demographic Item	Number	Percent
Age		100.0
Under 5 years		
5 to 9 years		
10 to 14 years		
15 to 19 years		
20 to 24 years		
25 to 29 years		
30 to 34 years		
35 to 39 years		
40 to 44 years		
45 to 49 years		
50 to 54 years		
55 to 59 years		
60 to 64 years		
65+ years		
Missing		
Hispanic Origin		100.0
Not Hispanic or Latino checkbox only		
Mexican checkbox only		
Puerto Rican checkbox only		
Cuban checkbox only		
Another Hispanic checkbox only		
Multiple checkboxes		
Both Checkbox and Write-in		
Write-in Only		
Missing		
Race		100.0
White checkbox alone		
Black or African American checkbox alone		
American Indian and Alaska Native checkbox alone		
Asian Indian checkbox alone		
Chinese checkbox alone		
Filipino checkbox alone		
Japanese checkbox alone		
Korean checkbox alone		
Vietnamese checkbox alone		

Other Asian checkbox alone	
Native Hawaiian checkbox alone	
Guamanian or Chamorro checkbox alone	
Samoan checkbox alone	
Other Pacific Islander checkbox alone	
Some Other Race checkbox alone	
Multiple checkboxes	
Both Checkbox and Write-in	
Write-in Only	
Missing	
Relationship	100.0
Householder	
Husband or Wife of Householder	
Biological Son or Daughter of Householder	
Adopted Son or Daughter of Householder	
Stepson or Stepdaughter of Householder	
Brother or Sister of Householder	
Father or Mother of Householder	
Grandchild of Householder	
Parent-in-law of Householder	
Son-in-law or Daughter-in-law of Householder	
Other Relative	
Roomer or Boarder	
Housemate or Roommate	
Unmarried Partner	
Other Nonrelative	
Two or more relationships	
Missing	
Sex	100.0
Male	
Female	
Both	
Missing	
Tenure	100.0
Owned with a mortgage or a loan	
Owned without a mortgage or a loan	
Rented	
Occupied without payment of rent	
Multiple	
Missing	

Source: DRF

TABLE SHELL FOR ASSESSMENT STANDARD
DEMOGRAPHIC TABLES
MULTIPLE TABLE FORMAT

Table XX. Standard Assessment Demographic Table for Age

Age	Number	Percent
Under 5 years		
5 to 9 years		
10 to 14 years		
15 to 19 years		
20 to 24 years		
25 to 29 years		
30 to 34 years		
35 to 39 years		
40 to 44 years		
45 to 49 years		
50 to 54 years		
55 to 59 years		
60 to 64 years		
65+ years		
Missing		
Total		100.0

Source: DRF

Table XX. Standard Assessment Demographic Table for Hispanic Origin

Hispanic Origin	Number	Percent
Not Hispanic or Latino checkbox only		
Mexican checkbox only		
Puerto Rican checkbox only		
Cuban checkbox only		
Another Hispanic checkbox only		
Multiple checkboxes		
Both Checkbox and Write-in		
Write-in Only		
Missing		
Total		100.0

Source: DRF

Table XX. Standard Assessment Demographic Table for Race

Race	Number	Percent
White checkbox alone		
Black or African American checkbox alone		
American Indian and Alaska Native checkbox alone		
Asian Indian checkbox alone		
Chinese checkbox alone		
Filipino checkbox alone		
Japanese checkbox alone		
Korean checkbox alone		
Vietnamese checkbox alone		
Other Asian checkbox alone		
Native Hawaiian checkbox alone		
Guamanian or Chamorro checkbox alone		
Samoan checkbox alone		
Other Pacific Islander checkbox alone		
Some Other Race checkbox alone		
Multiple checkboxes		
Both Checkbox and Write-in		
Write-in Only		
Missing		
Total		100.0

Source: DRF

Table XX. Standard Assessment Demographic Table for Relationship*

Relationship	Number	Percent
Householder		
Husband or Wife of Householder		
Biological Son or Daughter of Householder		
Adopted Son or Daughter of Householder		
Stepson or Stepdaughter of Householder		
Brother or Sister of Householder		
Father or Mother of Householder		
Grandchild of Householder		
Parent-in-law of Householder		
Son-in-law or Daughter-in-law of Householder		
Other Relative		
Roomer or Boarder		
Housemate or Roommate		
Unmarried Partner		
Other Nonrelative		
Two or more relationships		
Missing		
Total		100.0

*Extended roster persons are excluded from this table.

Source: DRF

(Note that the footnote and the following table may not be appropriate for all reports and should be removed in those cases.)

Table XX. Standard Assessment Demographic Table for Relationship of Extended Roster Persons

Relationship	Number	Percent
Other Relative		
Other Nonrelative		
Both		
Missing		
Total		100.0

Source: DRF

Table XX. Standard Assessment Demographic Table for Sex

Sex	Number	Percent
Male		
Female		
Both		
Missing		
Total		100.0

Source: DRF

Table XX. Standard Assessment Demographic Table for Tenure

Tenure	Number	Percent
Owned with a mortgage or a loan		
Owned without a mortgage or a loan		
Rented		
Occupied without payment of rent		
Multiple		
Missing		
Total		100.0

Source: DRF

Notes about the inclusion of the Standard Demographic Tables:

- Following the quality process, the format of the tables was updated to remove color. The table is still one table and includes “total” rows at the top of the section rather than the bottom. Authors will need to adjust the table so that a demographic item does not split across pages. Alternatively, you may use individual tables for each demographic item. A template for both formats is included below.
- Only include Data Defined Persons (PP_DDP variable) in calculating the tables
- Only the boiler plate language should be included with the tables. You should not draw your own conclusions about the standard demographic tables.
- The tables may be placed in an Appendix or appear as part of the report. If one of the research questions pertains to demographics then the table(s) should appear in the body of the report.
- When coding the demographic tables you should not use the STD_* variables but use the individual checkboxes instead.
- Use the variable PNUM (person number) to identify extended roster persons.
- Hispanic Origin and Race Extended Roster: if you are working with forms that contain an extended roster you should address the issue that some persons were not asked Hispanic Origin and Race. You can include these people in the missing total and then explain it. No standard wording is provided for this since it will vary from report to report, but a suggestion that you can modify is as follows:
 - Persons 9 through 12 on Bilingual mailback forms, called extended roster persons, were not asked all demographic information. A shortened relationship question was asked for them; a separate analysis of relationship is provided for these people. No information on race or Hispanic origin was collected. Missing rates for race and Hispanic origin will be inflated because of this.
 - You could possibly footnote the missing rates for race and Hispanic origin and include counts of how many of these people are extended roster persons.
- Race and Hispanic Origin Coding:
 - The ‘Checkbox and Write-in’ category includes any case where at least one checkbox is marked and at least one write-in field is filled. A write-in field is considered filled if it is non-blank. All of the checkboxes should be considered in coding this.
 - The ‘Write-in Only’ category should include cases where none of the checkboxes are marked and any one or more of the write-in fields are filled.
 - For electronic instruments, the variables RACE_ASIAN and RACE_NHPI were used to record answers to an “umbrella” question to capture race that did not appear on paper forms. The umbrella questions are ignored in coding. If these are the only boxes marked the person would be coded as missing. A footnote can be used to explain or quantify this.

- Relationship: Person 1, who does not answer relationship, should be reported as the Householder. The first person on enumerator continuation forms is Person 6 and should not be considered in the householder count. If you are working with forms that contain an extended roster you should address the issue that some persons were not asked detailed Relationship. Extended roster persons should be reported in their own table, if possible, with lines for “Other Relative”, “Other Nonrelative”, “Missing”, and “Both.” Reports on GQ forms can exclude this section of the table.
- Age: Clarifications on the original algorithm provided with the agenda and minutes were received from POP. Below is an updated algorithm. You can also obtain SAS code from Geoff Jackson which has been independently double programmed and validated.

Variables Used: AGE_YEARS, DOB_MONTH, DOB_DAY, DOB_YEAR.

Create calculated age as follows:

1. Range check:

- a. If DOB_MONTH not in 01-12, then set to blank====>INTERMEDIATE_MOB
- b. If DOB_YEAR not in 1884-2010 then set to blank=====>INTERMEDIATE_YOB (do not convert 2-digit years to 4-digit years, use whatever is in the field as is)

2. Calculating an age (CALCULATED_AGE):

- a. Calculate an age where DOB_MONTH is not blank nor 4:

If INTERMEDIATE_YEAR and INTERMEDIATE_MONTH are not blank and DOB_MONTH is not 4, then:

Create a string variable (used in formula for calculated age) = STRING_DATE

STRING_DATE=INTERMEDIATE_YOB*10000+INTERMEDIATE_MOB*100
 CALCULATED_AGE=(201004-STRING_DATE)/100

Ignore decimal, do not round.

Now you have a calculated age (CALCULATED_AGE) and a reported age (AGE_YEARS).

If CALCULATED_AGE exists and is in range 0-115, then

FINAL_AGE=CALCULATED_AGE

Else if CALCULATED_AGE does not exist and AGE_YEARS does exist and is in range 0-115, then FINAL_AGE=AGE_YEARS

Else if calculated_age is in range 116-125 or age_years is in range 116-125 then final_age=115

Else, FINAL_AGE=blank.

If the date of birth is reported after census day but age_years is 0 should this be reported as 0 or missing? POP: 0. The above algorithm works in this case and no modification is necessary.

b. Calculate an age where DOB_MONTH=4

If DOB_DAY not in (01-30 for months=04) then set to blank====>
INTERMEDIATE_DOB

If INTERMEDIATE_YEAR and INTERMEDIATE_MONTH and
INTERMEDIATE_DAY exist, then:

Create a string variable (used in formula for calculated age) = STRING_DATE

STRING_DATE=INTERMEDIATE_YOB*10000+INTERMEDIATE_MOB*100+INT
ERMEDIATE_DOB

CALCULATED_AGE=(20100401-STRING_DATE)/10000

Ignore decimal, do not round.

Now you have a calculated age (CALCULATED_AGE) and a reported age
(AGE_YEARS).

If CALCULATED_AGE exists and is in range 0-115, then

FINAL_AGE=CALCULATED_AGE

Else if CALCULATED_AGE does not exist and AGE_YEARS does exist and is in range
0-115, then FINAL_AGE=AGE_YEARS

Else if calculated_age is in range 116-125 or age_years is in range 116-125 then
final_age=115

Else, FINAL_AGE=blank.

If the date of birth is reported after census day but age_years is 0 should this be reported as 0 or missing? POP: 0. The above algorithm works in this case and no modification is necessary.

c. If CALCULATED_AGE is not able to be calculated then:

if AGE_YEARS exists and is in the range of 0-115 then FINAL_AGE=AGE_YEARS

else if AGE_YEARS exists and is in the range of 116-125 then FINAL_AGE=115

else FINAL_AGE=blank

Boiler Plate Language

Before the single table option include the following:

There were XXX,XXX data defined persons included on XXX,XXX (operation name) forms in the 2010 Census. This section will present the demographic characteristics for these persons on the (operation name) form. Table XX gives (operation name) person demographic characteristics: age, Hispanic origin, race, relationship to person 1, and sex. Age was calculated based on the date of birth provided; if no date of birth was provided then the write-in age was used. Age was calculated only if the date of birth fell within valid date ranges. Similarly, the calculated age or write-in age was used only if it fell within valid age ranges; otherwise it was considered missing. Table XX also gives the distribution of tenure responses for housing units included in the (operation name) operation.

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

Before the multiple table option include the following:

There were XXX,XXX data defined persons included on XXX,XXX (operation name) forms in the 2010 Census. This section will present the demographic characteristics for these persons on the (operation name) form. Tables XX-YY gives (operation name) person demographic characteristics: age, Hispanic origin, race, relationship to person 1, and sex. Age was calculated based on the date of birth provided; if no date of birth was provided then the write-in age was used. Age was calculated only if the date of birth fell within valid date ranges. Similarly, the calculated age or write-in age was used only if it fell within valid age ranges; otherwise it was considered missing. Table ZZ gives the distribution of tenure responses for housing units included in the (operation name) operation.

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

After the (last) table include the following statement:

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

**SAMPLE TABLE SHELLS FOR ASSESSMENT STANDARD
ADDRESS TABLES**

**DRAFT 2010 CPEX TABLE SHELLS: Housing Unit Tables
DSSD / Program Evaluation
Version 1.3, released December 15, 2010**

Table N. The 2010 Census <<Operation>>			QC	
Addresses	Count [*]	Percent of total [†]		
Total	999,999,999	100.00	PASS	PASS
United States	500,000,000	50.00		
Puerto Rico	500,000,000	50.00		
*Counts and percentages are unweighted. *Counts and percentages are weighted; standard errors in parentheses. †Percentages may not sum to 100 due to rounding. ¹ Footnote. Source: X.				

Table N.
**The 2010 Census <<Operation>>:
 <<Universe>> by Housing Unit Type**

Housing Unit Type	Count*	Percent of total†
Total	999,999,999	100.00
Housing Unit	500,000,000	50.00
Single Unit	166,666,667	16.67
Multi-Unit	166,666,667	16.67
2 - 4 Units	33,333,333	3.33
5 - 9 Units	33,333,333	3.33
10 - 19 Units	33,333,333	3.33
20 - 49 Units	33,333,333	3.33
50+ Units	33,333,333	3.33
Mobile Home/Trailer	166,666,667	16.67
Other Living Quarter (OLQ) or Group Quarter (GQ)	500,000,000	50.00

*Counts and percentages are unweighted.
 *Counts and percentages are weighted; standard errors in parentheses.
 †Percentages may not sum to 100 due to rounding.
 †Footnote.
 Source: X.

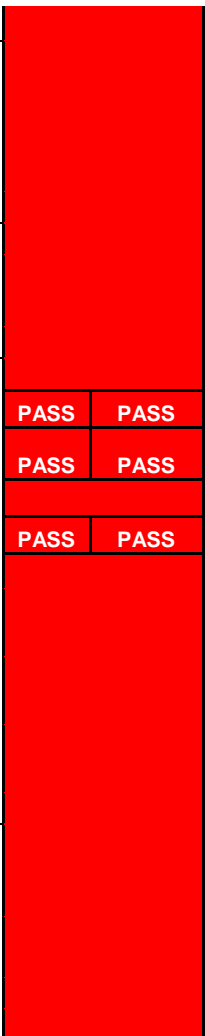


Table N.
**The 2010 Census <<Operation>>:
 <<Universe>> by Address Type**

Type of Address Information	Count [*]	Percent of total [†]
Total	999,999,999	100.00
Complete City-Style	200,000,000	20.00
With complete Rural Route and/or complete P.O. Box and/or location description	100,000,000	10.00
Without complete Rural Route or complete P.O. Box or location description	100,000,000	10.00
Complete Rural Route	200,000,000	20.00
With location description	100,000,000	10.00
Without location description	100,000,000	10.00
Complete P.O. Box	200,000,000	20.00
With location description	100,000,000	10.00
Without location description	100,000,000	10.00
Incomplete address information	200,000,000	20.00
With location description	100,000,000	10.00
Without location description	100,000,000	10.00
No address information	200,000,000	20.00
With location description	100,000,000	10.00
Without location description	100,000,000	10.00

*Counts and percentages are unweighted.
 *Counts and percentages are weighted; standard errors in parentheses.
 †Percentages may not sum to 100 due to rounding.
¹Footnote.
 Source: X.

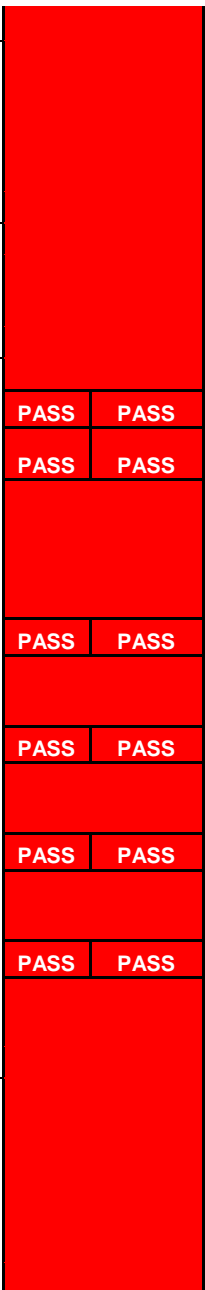


Table N.

**The 2010 Census <<Operation>>:
<<Universe>> by Type of Enumeration Area**

Type of Enumeration Area (TEA)	Count*	Percent of total [†]
Total	999,999,999	100.00
TEA 1: Mailout/Mailback (MO/MB)	125,000,000	12.50
TEA 2: Update/Leave (U/L)	125,000,000	12.50
TEA 3: Remote Update/Enumerate (RU/E)	125,000,000	12.50
TEA 4: Remote Alaska (RA)	125,000,000	12.50
TEA 5: Update/Enumerate (U/E)	125,000,000	12.50
TEA 6: Military	125,000,000	12.50
TEA 7: Urban Update/Leave (UU/L)	125,000,000	12.50
TEA 9: Island Areas List/Enumerate	125,000,000	12.50

*Counts and percentages are unweighted.

*Counts and percentages are weighted; standard errors in parentheses.

*Percentages may not sum to 100 due to rounding.

[†]Footnote.

Source: X.

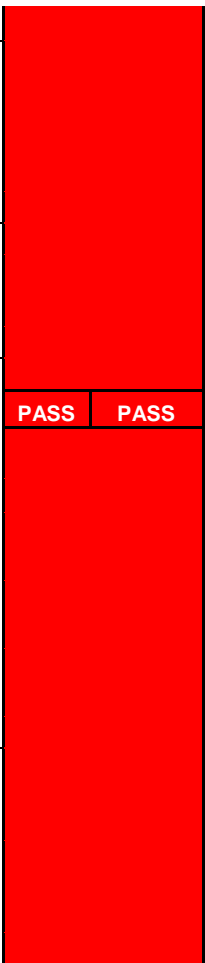


Table N.

**The 2010 Census <<Operation>>:
<<Universe>> by <<Collection or Tabulation>> Block Size**

Block Size Based on Number of Addresses	Count*	Percent of total*
Total	999,999,999	100.00
0	111,111,111	11.11
1	111,111,111	11.11
2-9	111,111,111	11.11
10-19	111,111,111	11.11
20-49	111,111,111	11.11
50-99	111,111,111	11.11
100-499	111,111,111	11.11
500-999	111,111,111	11.11
1000+	111,111,111	11.11

*Counts and percentages are unweighted.
 *Counts and percentages are weighted; standard errors in parentheses.
 *Percentages may not sum to 100 due to rounding.
¹Footnote.
 Source: X.

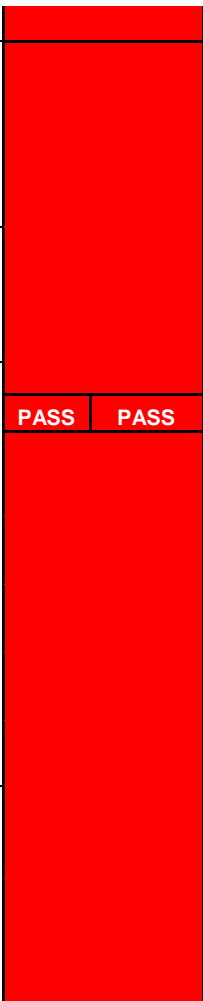


Table N.

**The 2010 Census <<Operation>>:
<<Universe>> by Census Region and Division**

Census Region and Division	Count [*]	Percent of total [†]
Total	999,999,999	100.00
Region 1: Northeast	200,000,000	20.00
Division 1: New England (CT,ME,MA,NH,RI,VT)	100,000,000	10.00
Division 2: Middle Atlantic (NJ,NY,PA)	100,000,000	10.00
Region 2: Midwest ¹	200,000,000	20.00
Division 3: East North Central (IL,IN,MI,OH,WI)	100,000,000	10.00
Division 4: West North Central (IA,KS,MN,MO,NE,ND,SD) ...	100,000,000	10.00
Region 3: South	200,000,000	20.00
Division 5: South Atlantic (DC,DE,FL,GA,MD,NC,SC,VA,WV)	66,666,667	6.67
Division 6: East South Central (AL,KY,MS,TN)	66,666,667	6.67
Division 7: West South Central (AR,LA,OK,TX)	66,666,667	6.67
Region 4: West	200,000,000	20.00
Division 8: Mountain (AZ,CO,ID,MT,NM,NV,UT,WY)	100,000,000	10.00
Division 9: Pacific (AK,CA,HI,OR,WA)	100,000,000	10.00
Puerto Rico	200,000,000	20.00

*Counts and percentages are unweighted.

*Counts and percentages are weighted; standard errors in parentheses.

†Percentages may not sum to 100 due to rounding.

¹Prior to June 1984, the Midwest Region was designated as the North Central Region.

Source: X.

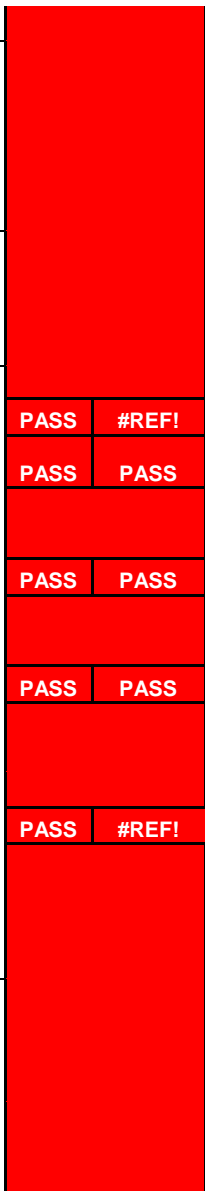


Table N.
**The 2010 Census <<Operation>>:
 <<Universe>> by Original Source**

Original Source	Count*	Percent of total†		
Total	999,999,999	100.00	PASS	#REF!
1990 Address Control File (ACF)	900,000,000	90.00		
Pre-Census 2000 Delivery Sequence Files (DSF)			PASS	PASS
11/97 (or earlier) DSF				
09/98 DSF				
11/99 DSF				
02/00 DSF				
04/00 DSF				
1998 Dress Rehearsal				
Census 2000	99,999,999	10.00	PASS	PASS
Address Listing	99,999,999	10.00		
Block Canvassing				
Questionnaire Delivery1				
Nonresponse Followup (NRFU)				
New Construction				
Coverage Improvement Followup (CIFU)2				
Special Places (SP)/Group Quarters (GQ) Enumeration				
SP/GQ Master File				
Local Update of Census Addresses (LUCA)				
Non-ID Processing				
Update/Enumerate (U/E)				
Update Leave (U/L)				
Pre-Census 2010 DSFs			PASS	PASS
09/00 DSF				
2001 DSFs (Spring & Fall)				
2002 DSFs (Spring & Fall)				
2003 DSFs (Spring & Fall)				
2004 DSFs (Spring & Fall)				
2005 DSFs (Spring & Fall)				
2006 DSFs (Spring & Fall)				
2007 DSFs (Spring & Fall)				
2008 DSFs (Spring & Fall)				
2009 DSFs (Spring & Fall)				
2010 DSFs (Spring & Fall)				
Pre-Census 2010 Test/Operation			PASS	PASS
2004 Census Test				
2006 Census Test				
2008 Census Dress Rehearsal				

LUCA 2008 Demographic Area Address Listing (DAAL) American Community Survey (ACS) Time of Interview (ToI) ... Census 2010 LUCA Address Canvassing (AC) Group Quarters Validation (GQV) New Construction Be Counted Program NRFU, Vacant/Delete Check (VDC) All Other Sources/Combinations		
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PASS	#REF!
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*Counts and percentages are unweighted.

*Counts and percentages are weighted; standard errors in parentheses.

*Percentages may not sum to 100 due to rounding.

¹Questionnaire Delivery refers to any operation where the address list was updated during the initial delivery of a questionnaire or during the actual enumeration. These operations include Update/Leave, Urban Update/Leave, Update/Enumerate, List/Enumerate, and Remote Alaska.

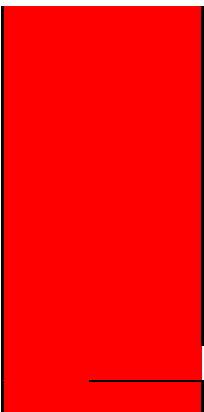
²Includes the results of several ad hoc "windshield" survey operations when whole communities appeared to be missing from the address list of mailout.

Source: X.

State	Count*	Percent of total*		
Total	999,999,999	100.00	PASS	PASS
Alabama	999,999,999	100.00		
Alaska	0	0.00		
Arizona	0	0.00		
Arkansas	0	0.00		
California	0	0.00		
Colorado	0	0.00		
Connecticut	0	0.00		
Delaware	0	0.00		
District of Columbia	0	0.00		
Florida	0	0.00		
Georgia	0	0.00		
Hawaii	0	0.00		
Idaho	0	0.00		
Illinois.....	0	0.00		
Indiana	0	0.00		
Iowa	0	0.00		
Kansas	0	0.00		
Kentucky	0	0.00		
Louisiana	0	0.00		
Maine	0	0.00		
Maryland	0	0.00		
Massachusetts	0	0.00		
Michigan	0	0.00		
Minnesota	0	0.00		
Mississippi	0	0.00		
Missouri	0	0.00		
Montana	0	0.00		
Nebraska	0	0.00		
Nevada	0	0.00		
New Hampshire	0	0.00		
New Jersey	0	0.00		
New Mexico.....	0	0.00		
New York	0	0.00		
North Carolina	0	0.00		
North Dakota	0	0.00		
Ohio	0	0.00		
Oklahoma	0	0.00		
Oregon	0	0.00		
Pennsylvania	0	0.00		
Rhode Island	0	0.00		
South Carolina	0	0.00		

South Dakota
Tennessee
Texas
Utah
Vermont
Virginia
Washington
West Virginia
Wisconsin
Wyoming
Puerto Rico

0 0.00
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0 0.00
0 0.00



FREQUENTLY ASKED QUESTIONS

Question 1

What do I do if my report contains Title 13 data (or other sensitive information)?

Response 1

Prepare the full report with a note on the cover page to the effect that “Distribution of this report is limited to Census Bureau staff with a work-related need to see the full report.” In addition, prepare a short-version of the report without the Title 13 (sensitive information) for distribution in the appropriate 2010 Census Memo Series. Note that both versions of the report should follow the guidelines in the Quality Process Handbook.

Question 2

How do I archive data that contains Title 13 data?

Response 2

Prepare a placeholder file that indicates who to contact or how to locate the source data. Include this placeholder file with the other data for archiving.

Question 3

How do I index numbers in the report that came from extremely large databases (i.e., 500,000+ records)?

Response 3

Instead of entering the usual indexing information (i.e., reference number, page number, fact number), enter "xxx database." Include a note with the draft report so that the fact-checker and Quality Process reviewer know not to comment on the numbers derived from the database.

4 Question 4

How will data be gotten from divisions using Interface Control Document (ICD)?

Response 4

If an ICD is set up, the participating divisions have agreed on machines and directory structure. Without going into too much detail, the division producing the data places it in an agreed directory in their space and the software copies the data to an agreed directory on the consumer/receiver space. Users then move the data to the desired location.

5 Question 5

How will author's transfer and store Title 13 data?

Response 5

Product services. If there is an existing ICD between divisions, this information needs to be passed to Maureen Lynch to add to the document. If no ICD exists, we will need to determine case by case how to handle the transfer. Once DSSD receives the data, we are responsible for the data.

6 Question 6

How will audiotapes be handled for archiving?

Response 6

We have no process or space to handle these data items. Probably best stored in the division collecting this type of information, an exception to the rule.

7 Question 7

What presentation format is used for CIG briefings? (PowerPoint or handouts)

Response 7

It's up to the discretion of the author.

Question 8

When using bulleted phrases should the first word be capitalized?

Response 8

If the sentence above the bullets ends with a colon, don't capitalize. If each bullet is its own sentence, capitalize. See below for examples.

The colors of the flag are:

- red,
- white, and
- blue.

Each flag is a different combination of colors.

- The U.S. flag is red, white, and blue.
- The Italian flag is green, white, and red.

Question 9

If comments are made on the final draft, can notation of whose comments are whose be sent to the project manager?

Response 9

When at all possible the Program Information Branch will let the project manager know who commented.

Question 10

I have information in my Non-ID Processing Assessment that I got from the Field Verification Assessment, which is currently out to critical reviewers. How do I list the document in my References list if there is no final date for the document? Do I just put a year without the month and day? Do I have to put the word "draft" somewhere?

Response 10

It sounds like the Field Verification Assessment report is ahead of yours in the quality process. As you suggested, put the word "DRAFT" and note that the reference report is being reviewed. Before sending out your final draft or PDF version, add the date when the Field Verification Assessment report is final.

Question 11

If a number is indexed in one section and the same number is referenced elsewhere in the report, do I index the second and/or later instance(s)?

Response 11

Use the same index number, but it should be indexed each time so that the fact-checker has all the information. The exception is if it's used once in the Executive Summary and once in the report. Then the indexing in the Exec Summary should be indexed to the report (not to the original source).

Question 12

I'm reviewing the final draft report of the CCM IL Quality Profile. Should I comment that it should follow the new Attachment U of the QP Handbook? (It currently doesn't.)

Response 12

The template for the Quality Profile Reports is different from the assessments, evaluations, and experiments.

Question 13

How is indexing done for graphics (line plot, bar chart, etc)?

Response 13

If referring to the entire chart, index the chart; if referring to data point in the chart index only the specific data points.

Question 14

What is the citation format for the source of C&P data to a particular drill down view of a particular report?

Response 14

U.S. Census Bureau (2011). "Cost and Progress Report: Cumulative Data Capture Progress." April 12, 2011.

Question 15

If using an EXCEL spreadsheet for a source document, instead of numbering each cell in column B (R1, R2, R3, ...) can the author use B1, B2, B3, ... for the reference number?

Response 15

As long as a reference number is assigned to the spreadsheet and it's clear to the fact-checker.

Sign-Off Process

Scope: ___ 2008 Assessment ___ 2010 Assessment
 ___ 2010 Evaluation ___ 2010 Experiment ___ 2010 Quality Profile

Document: ___ Study Plan ___ Report

Title: _____

Review Stage	Study Plan	Report
Critical Reviewers		
<i>Name 1</i>	Date Comments Received:	Date Comments Received:
<i>Name 2</i>	Date Comments Received:	Date Comments Received:
<i>Name 3</i>	Date Comments Received:	Date Comments Received:
<i>Name 4</i>	Date Comments Received:	Date Comments Received:
<i>Name 5</i>	Date Comments Received:	Date Comments Received:
<i>Name 6</i>	Date Comments Received:	Date Comments Received:
CIG/ ESC for 2010 CAR Briefing	Briefing Date: _____ Date Comments Received: _____	Briefing Date: _____ Date Comments Received: _____
Project Manager's Division Review	Date Comments Received:	Date Comments Received:
DMD PIB/ECB Review #1	Date Comments Received:	Date Comments Received:
DMD PIB/ECB Review #2 (if necessary)	Date Comments Received:	Date Comments Received:
Project Manager's Division Chief Signature	Signature Date: _____	Signature Date: _____
DMD Chief Signature	Signature Date: _____	Signature Date: _____
DMD Memo Series Issuance	Issue Date: _____ Memo Number: _____	Issue Date: _____ Memo Number: _____

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[Use one of the following:]

2010 Census Program for Evaluations and Experiments
2010 Census Assessments
2010 Census Quality Profiles

DATE

[Title]

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

DRAFT or FINAL Designation

NAME(s)

Division or Office name(s)



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[Report Title]
Record of Document Changes

Version	Date	Change	Reason	Location

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Executive Summary

Include limited introduction, background, and methodology, as necessary, but focus on your main results and recommendations. Include the high-level research questions and the answers to the questions. Use the full citation if a reference is cited. Don't use acronyms in the Executive Summary. Don't include any information in the Executive Summary that isn't also in the body of the report.

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1. Introduction

1.1 Scope

Provide a short description of the [insert title of Evaluation, Experiment, Operational Assessment, or Quality Profile] being specified and its purpose, including relevant benefits, objectives, and goals. Explain what the [insert title of Evaluation, Experiment, Operational Assessment, or Quality Profile] will, and, if necessary, will not do. Relate the [insert title of Evaluation, Experiment, Operational Assessment, or Quality Profile] to organizational goals and business strategies.

1.2 Intended Audience

Identify the type of users for whom this document is intended. For example, the program managers and staffs responsible for planning the 2020 Census are an intended audience.

2. Background

The following subsections should generally describe the program for the Evaluation, Experiment, Operational Assessment, or Quality Profile report.

2.1 Sub-heading 1

Insert text here if needed.

2.2 Sub-heading 2

Insert text here if needed. Add more sub-headings if needed.

3. Methodology

Authors may either list all questions and the method associated with answering the question as individual subheadings or in a chart.

3.1 Question to be Answered

Insert text here that explains the question.

3.1.1 Question 1

Insert text here that explains the question.

3.1.2 Question 2

Insert text here that explains the question.

3.1.3 Question 3

Insert text here that explains the question.

3.1.n Question n

Insert text here that explains the question.

3.2 Methods

Insert text here that explains the methods. Use Heading Level 3 as needed.

4 Limitations

Insert text here that explains the limitation(s) (i.e., problems or deviations from planned operations that affect your results). Also, include aspects of the evaluation/experiment report that may influence or adversely affect the ability to generalize or interpret results.

5 Results

Each question from the study plan should be answered. If there are topics that need to be addressed in the results section that don't have a specific question outlined, authors should state the topic in the form of a question; for example, for a schedule topic, "What were the planned and actual start and finish dates for the operation?"

5.1 Question 1

Insert text here that explains the results.

Table 5: Question 1 Data Results

5.2 Question 2

Insert text here that explains the results.

Table 6: Question 2 Data Results

5.3 Question 3

Insert text here that explains the results.

Figure 1: Question 3 Data Results

5.4 Question 4

Insert text here that explains the results.

Figure 2: Question 4 Data Results

5.n Question n

Insert text here that explains the results.

6 Related Evaluations, Experiments, and/or Assessments

If this section is not needed, state “This section does not apply.”

7 Key Lessons Learned, Conclusions, and Recommendations

Insert text here that explains your lessons learned, conclusions, and recommendations.

8 Acknowledgements

OPTIONAL: Identify contributing staffs or persons.

9 References

List any source documents that are referenced in this report. List references in alphabetic order by author, then by year (and letter, if appropriate). Use the same format for each reference. Follow The Gregg Reference Manual, with one exception. Include the year issued in parentheses after the author(s)' name(s). Also, if there is more than one reference by the same author(s) in the same year, assign a, b, c, ... to distinguish between them. (Letters should be assigned in chronologic order.)

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Attachment or Appendix A: Title

Include any lengthy explanations or tables that would clutter the main part of your report in an attachment or an appendix. If there is only one attachment or appendix, don't label it with a number or letter (i.e., refer to it as "the attachment" or "the appendix"). All appendices and/or attachments should be referenced in the report.

Attachment or Appendix B: Title

Attachment or Appendix N: Title

Checklist: 2010 Census Auxiliary or Preliminary Results Sign-Off

Scope: 2010 Census Results Date of Request: _____

Auxiliary Results: (Source: _____)

Preliminary Results: _____ 2010 Assessment _____ 2010 Evaluation
 _____ 2010 Experiment _____ 2010 Quality Profile
 (Title: _____)

Title of paper or Description of special request: _____

Project Manager(s): _____

Office(s): _____

Requesting Office: _____ DIR _____ ADCOM _____ Other

Intended External Audience(s), if known: _____

Name of Professional Association, if appropriate: _____

Stages	Results	Sign Off
Verification/Validation		
<i>Name of double programmer</i>	Date Validated:	
<i>And/or code reviewer</i>		
Independent Data Check		
<i>Name:</i>	Date Completed:	
Supervisory Review		
<i>Name:</i>	Date Approved:	
2-Level Supervisory Review, as appropriate		
<i>Name:</i>	Date Approved:	
Transmittal to Requester or Date of Professional Association presentation	Date Transmitted:	
Transmittal to Decennial Management Division (Jim Dinwiddie and Kevin Deardorff)	Date Transmitted:	