2010 Census Local Update of Census Addresses (LUCA) Program

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Activity: 1.1 Eligible GUs

History/Lessons Learned:
1) States were given the opportunity to participate directly in the program for the first time in 2010 LUCA.
2) Separate CD for each county was delivered to the state participants because LUCA processing is done at the county-level. Some states asked for one CD, but this was not possible for 2010 LUCA due to the one CD not being able to hold all the data for an entire state. Is there an alternative to one county = one CD? (Materials Development issue)
3) If address information was received from two or more participants for the same geographic area, all the information was added to the MTdb. There was no attempt to reconcile the information by contacting the participants if there were discrepancies. Who had precedence? Last one in wins?
4) GUs located in Remote Alaska areas and Remote Update Enumerate areas were not permitted to participate in the LUCA program since those areas were not part of Address Canvassing, thus addresses could not be field verified.
5) Puerto Rico GUs were only permitted one option for 2010 LUCA Initial Review. There were complaints that they were treated differently than stateside GUs.
6) Appealed addresses from Update Enumerate areas were not sent to NRFU and VDC since those operations do not cover UE areas. Instead, the results from the UE operation were used to determine the final outcome of the appealed UE addresses.

Recommendation(s):
1) Continue giving states the opportunity to participate and encourage participation at the higher levels of government (i.e., state, county). To make state participation easier, consider delivering materials to state participants on a flow basis and design processing and tracking systems to handle submissions on a county-by-county flow basis. (Related to Material Development)
2) If targeted Address Canvassing is implemented, then the GUs located in areas not included in Address Canvassing will be in the same position as the areas in Remote Alaska and Remote Update Enumerate. The solution for the other GUs may apply to the Remote Alaska and Remote Update GUs, allowing those areas to possibly be included in 2020 LUCA.
3) If the solution for the UE areas used for 2010 LUCA Appeals is still viable (i.e., using the results from the UE field operation as the final LUCA outcome), this procedure could be used for other TEAs, allowing more GUs to receive feedback and be eligible for appeals.
4) Continue giving tribal governments the opportunity to participate separately in LUCA.
5) There should be a uniform plan across all geographic partnership programs regarding which entities are eligible for participation.
6) Partnerships between GUs and NGOs should continue to be encouraged. NGOs cannot be official participants, but GUs that participate could designate as LUCA liaisons such groups as Alaska Native Regional Corporations, Council of Governments, and Regional Planning Agencies.
7) If stateside GUs are permitted more than one option for participation in 2020 LUCA, then an effort should be made to find a way for Puerto Rico GUs to have the same options. Since all boundary updates for Puerto Rico GUs only come from the Puerto Rico Planning Board, consider asking the government of Puerto Rico to make the same decision for LUCA address submissions. At the least, the option to submit boundary changes through LUCA should be removed for local governments in Puerto Rico. (Related to Policy Decisions 1.6)
8) Based on the results of the GSSI partnership programs, GUs should be identified as a trusted source if the address and feature information they provided was consistently of high quality. This way when discrepancies occur when processing the submissions from different GUs covering the

same geographic area, we will know which GU takes precedence over the other. Contact with the GUs in question should still be made to notify them of the issues.

Activity: 1.2 Title 13 Security Requirements

History/Lessons Learned:

1) There was no plan in place at the start of the operation to handle lost (misdelivered or misplaced) Title 13 LUCA materials. Some Title 13 data were lost in shipping to participants, in submissions from participants, and in shipments from the RCCs to the NPC. The Census Bureau created a manual system for tracking lost Title 13 materials.

2) Materials were sent to the wrong government a small number of times, all Title 13 materials. The materials were double-wrapped and encrypted, so it was not easy for the incorrect GU to view the Title 13 data. Next time when assembling packages, key on entity ID, entity name, and liaison name to ensure packages are assembled correctly and entities get their correct materials. Make sure there is a contingency plan in place for this particular situation (e.g., provide guidance to RCCs on how to handle situation).

3) Title 13 requirements for locals, but did not provide adequate IT support for Title 13 adherence. There needs to be IT support for adhering to Title 13 requirements in a help desk environment.

4) The Title 13 and security requirements added complexity to the program which affected the registration process and handling/processing of materials. The RCCs did not have a high level of confidence in ensuring compliance and the security guidelines were inadequate. LUCA participants who selected Option 1 (Full Address List Review) and Option 2 (Title 13 Local Address List Submission) were required to meet confidentiality and security guidelines to protect Title 13, U.S.C. Census Bureau information. Many participants referred technical questions related to confidentiality and security to the RCCs, but many of those questions were referred to the Census HQ Security Office. The RCC staff did not have the expertise to handle many of these questions because security policies and procedures were outside their purview. Provide more and better support, including technical assistance available for topics outside the area of expertise of geography staff, to the RCCs to ensure participant compliance with all security requirements and provide complete guidelines at the outset of the program.

5) The participant survey shows that 13.0 percent of the responding participants had to obtain outside assistance in order to comply with the Title 13 confidentiality requirements. Another 11.0 percent procured extra stand-alone computers and/or servers to ensure that Title 13 data were kept separate from their other data. Eight percent brought in other staff or consultants at a cost to modify existing hardware and/or software, while eight percent obtained additional computer hardware. In addition, six percent obtained additional computer software to protect the Census Bureau's address list.

6) The survey states that respondents found the Title 13 security requirements excessive, sometimes absurd, and burdensome considering that address information is available from USPS, Google, and GPS mapping systems. Some of the respondents stated that the requirements limited or precluded participation in LUCA and have vowed not to participate in future LUCA programs. According to the LUCA assessment, 441 governments selected "Concerns About the Security and Confidentiality of the Census Bureau's Address List" as a reason to not participate in the LUCA program. Over 94.0 percent of these were smaller governments with less than 6,000 addresses. State participants experienced the greatest burden for compliance. However, smaller governments that used paper address lists had fewer concerns about compliance since paper products were easier to secure.

7) The RCCs discovered that all electronic participants visited during the site inspections lacked the splash screen warning that the users were accessing data protected by Title 13, U.S.C. The Information Technology Security Office (ITSO) failed to communicate any appropriate course of action to either the FLD or the GEO. Boston suggested that the RCCs and GUs receive more guidance early in the program to comply with Title 13 requirements. For example, the Census Bureau provided no guidance to the GUs for creating a 'splash screen.'

Recommendation(s):
1) Detailed technical instructions covering all aspects of Title 13 requirements should be included in the procedures. Look at the technical instructions the GSSI used for other partnership programs as a guide.
2) Explain to the Census legal and IT staff how typical municipal systems are organized and designed and then work with them to come up with streamlined technical guidelines that are easier for the GUs to use.
3) The instructions covering paper-related Title 13 requirements were thoroughly covered for 2010 LUCA and should be carried forward for 2020 LUCA.
4) The Help Desk should be active by the time initial materials are shipped and should be able to answer all technical and security questions they might receive from participants.
5) When shipping materials to participants, the latest shipping procedures should be utilized by the delivery service in order to guarantee the safe delivery of the materials. For example, an email could be sent to the participant notifying them that a package is on the way and that a signature is required or else the package cannot be delivered. This will be especially useful for when a recipient has an arrangement with the delivery service allowing them to leave packages at the door with someone signing for them. (Applicable to Printing & Shipping section)
6) When shipping materials between any two parties (e.g., RO to NPC, NPC to GU, HQ to RO, etc.), all shipments should be tracked in the LUCA PCS. Work with the policy office to determine the length of time to wait for an overdue package before contacting the delivery service to determine the location of the shipment. File an official report if packages containing Title 13 materials are lost in-transit.
7) Materials exchanged between two parties internally should be tracked also. Whether it is materials being moved from bay to bay in NPC or between GEO and FLD at HQ, the movement should be noted in the PCS.
8) The LUCA team should continue working with the Shipping and Receiving area at HQ on the handling of Title 13 materials being shipped to HQ.
9) Plan for lost materials earlier and look at other Census Bureau programs when developing procedures to ensure consistency. Include in the procedures the policy for what the GUs should do with their Title 13 materials in case of an emergency/disaster. The procedures should also explain to the GUs what to do if a law enforcement agency wants to confiscate the computer the LUCA addresses reside on. The recommendation is for the GU to call the RO, who would then call the Census Bureau legal staff to report the incident.
10) The Bureau of Census Computer Incident Response Team should be prepared to handle LUCA Title 13 issues that arise by the time initial materials are shipped. The procedures that are developed will need to span the entire life of the program.
11) Title 13 training should cover the concept of unauthorized browsing of address information. A Title 13 violation could occur when a higher-level government (i.e., state or county) shares an address list with a lower level government containing address information for other entities besides theirs.
12) On the closeout forms, preprint the names of the liaisons that are required to sign the closeout form because they signed the Title 13 agreement.
13) Title 13 training should cover the importance of liaisons in maintaining the security of Title 13 materials throughout the program to improve GU actions on replacing liaisons upon their departure.
14) Title 13 training should discuss the Title 13 requirements throughout the life of the program (including the Feedback and Appeals phases) in detail when registering and training GUs. This will help them select the appropriate participation option and liaison.

Activity: 1.3 Group Quarter (GQ) Issues

History/Lessons Learned:
1) Housing Units were misidentified by participants as GQs during LUCA Initial Review. The procedures need to be clearer when describing what a GQ is.
2) A filter was applied to the submissions looking for names not related to GQs (e.g., apartment, trailer park, mobile home). The records deemed not to be GQs were converted to HUs.
3) Sensitive GQs were not printed on the LUCA address lists and the participants had to fax or ship a list to HQ (DMD). Sensitive GQs were not included in LUCA Feedback materials and GUs did not have appeal rights for them.

Recommendation(s):
1) Make sure there is a clear Census Bureau-wide definition of GQ before LUCA initial review.
2) Participants need to be educated better on how to identify GQs. The LUCA user guides need to clarify better the differences between GQs and HUs, especially for living quarters that are commonly mistaken for GQs, like mobile home parks and apartment buildings. A checklist or decision tree should be included in the LUCA initial review materials to help the participants make the correct designation. What qualifies as a GQ should also be stressed more at participant trainings.
3) The participants should be provided feedback on the GQ list if there are addresses misidentified as GQs or there are questions about addresses on the list as to whether they are truly GQs.
4) The Regional Office staff should be able to research the GQs they have questions about. They could also do a sample check of all the GQs on the list as part of QC.
5) The GQ name filter should be included in the software provided to participants so that they can QC their own submission. The GQ name filter should be applied on the LUCA submissions at the start of processing to ensure misidentified GQs do not get added to the MTdb and passed on to Address Canvassing and Group Quarters Validation.
6) Continue identifying known GQs in the LUCA initial review materials.
7) Continue the policy of not printing sensitive GQs on outgoing materials. Devise a way for participants to send in their list of sensitive GQs other than via fax machine. Look to GSSI and how they handled sensitive GQs.
8) Consider eliminating the step where GUs identify GQ status; the GUs would just provide the addresses without identifying HUs and GU status. Administrative records (and other sources) would be used to determine GQ status during submission processing. (More research has to be done into the Census Bureau's plans for capturing and maintaining GQ lists in the future. This may not be a feasible option because the list of potential GQs is made up partially from the GQs received by LUCA.)
9) Consider grouping GQs by facility when reviewing submissions. This will make it easier for the reviewer to detect missing or duplicated units.

Activity: 1.4 Addresses within American Indian Areas (AIAs)

History/Lessons Learned:
1) At first nontribal entities were not allowed to review the address list if their entity was totally within the boundary of a federally-recognized Indian reservation. Letters were received from public-interest groups and entities requesting to review the address list. The Census Bureau revised the policy. Another letter and registration package was sent out informing these entities that they could indeed review the address list, provided that they sign the Confidentiality Agreement Form and Self-Assessment Form.

Recommendation(s):
1) Continue policy of allowing nontribal entities to review the address list if their entity was totally within the boundary of a federally-recognized Indian reservation. Ensure that the policy is noted in the LUCA Federal Register Notice. Publish LUCA Federal Register Notice early enough to allow for comments to be received regarding the policy and whether there are entities that disagree with it.
2) Have RO/RCC staff reach out to the AIAs and inform them of the policy. The RO/RCC staff should work with the American Indian and Alaska Native Working Group to determine a consistent message to deliver to the AIAs.
3) Depending on the GSS-I development of "trusted" partners, the Census Bureau may need a policy on which level of geography takes precedence when geocoding or which version of an address is accepted as the "preferred" version when there are conflicts.

Activity: 1.5 Addresses within Military Installations

History/Lessons Learned:
1) GUs were permitted to provide addresses for HUs located on military installations (TEA 6).

Recommendation(s):
1) The LUCA Federal Register Notice should include the policy on how addresses on military installations will be handled in the field and displayed on LUCA products.
2) Since there may be legal issues with how addresses on military installations can be handled, the Census Bureau may have an agreement with the Defense Department regarding these addresses, so this would need to be incorporated into LUCA. If no such agreement exists, then the policy used by the GSSI should be utilized if possible.
3) Map spots are already not allowed to be captured for addresses on military installations, so if map spots are collected from GUs during LUCA, then the procedures must instruct the GUs not to provide them for addresses on military installations. An edit should be built into the software provided to the GUs to alert them to any map spots placed within blocks located on military installations. The same edit should also be run during RO processing. MTdb processing already rejects MSPs being added to military installations.
4) Develop a policy for managing submissions/appeals by GUs with military installations. The GUs may be uncomfortable with the lack of MSPs from field operations or wish to add MSPs via their own LUCA submission. Address information submitted by GUs may be contradictory with information provided by the military or Department of Defense.

Activity: 1.6 Boundary Updates (BAS Submissions)

History/Lessons Learned:
1) Was difficult running LUCA and BAS together. 1. Look into partially separating LUCA and BAS programs without increasing the burden on locals. 2. Try to measure the public burden of having LUCA and BAS together. 3. We can go back to what we did in 2000. Separate the two programs, but allow the participants to provide updates on a BAS Annexations/Deannexations Form.
2) GUs were permitted to request a separate 2008 BAS package, even if they were a LUCA participant.
3) Only the Puerto Rico Planning Board can submit boundary updates for Puerto Rico GUs.
4) Emails to GUs rejecting some or part of the feature updates accompanying the BAS updates (usually due to feature realignment issues) were not initially made available to RCC staff who were corresponding with the GUs on LUCA.
5) RCC staff did not always have exact copies of the materials available to participants. This complicated their ability to answer participants' questions.

Recommendation(s):
1) In the Advanced Mailing materials, GUs should be asked about recent boundary changes (annexations/deannexations). If a GU has experienced recent boundary changes, then they can contact us ahead of the official LUCA invite and have BAS materials sent to them. The BAS submission should be processed prior to the mailing of LUCA initial review materials. If the GU indicates on the LUCA registration form that they have experienced recent boundary changes, they will be sent BAS materials only. Once the boundary updates are processed, then they will receive their LUCA materials.
2) Boundary changes require state certification, so this step needs to be built into the process.
3) If boundary updates are done along with the LUCA address updates, the GUs should be instructed to mail the maps separately from the address lists. If the BAS maps and the LUCA address lists arrive together, to avoid any confusion, the LUCA materials should be a different color than the BAS maps. This will make separating the materials easier when the submissions are received.
4) For digital participants, if the GU wants to make BAS boundaries changes while doing their LUCA submission, then the digital tool or online interface needs to provide the ability to transition from one program to the other. This will allow the GU to make the boundary changes and then make the respective address updates in those areas. The boundary changes should be fully processed by HQ first prior to the LUCA address submission.

Activity: 1.7 Map Spots on LUCA Products

History/Lessons Learned:
1) Materials in workshops did not match materials received in the program (map spots). Upper management decisions must be made faster.
2) Map spot decisions took too long (include or not include on spatial products); led to burden on address and map people, and programmers. 1. Allow more time to decision makers. 2. Create short summaries of the situation, so decisions can be made promptly.
3) Initial Review materials stated that the Feedback materials would contain map spots.

Recommendation(s):
1) The policy should be decided early on (i.e., before the Federal Register Notice), and the policy should not change between phases.
2) Updates to the MTdb in the years prior to 2020 LUCA will make the MSPs more reliable and better for use in products.
3) Produce test products with the map spots displayed in order to determine if there are any problems with how the map spots appear (e.g., bunched up, difficult to read the numbers, etc.).
4) All policies related to map spots on LUCA materials should take into account tribal lands and military installations, as well as water blocks.

Activity: 1.8 Ingestion of Map Spots from LUCA Participants

History/Lessons Learned:
1) Map spots from GUs were not accepted for 2010 LUCA.

Recommendation(s):
1) GUs may collect their map spots differently (e.g., front door, building centroid, end of driveway, etc.). Having different collection-types in the MTdb can lead to misallocation issues due to the housing unit being placed on the incorrect side of a boundary. Select one collection-type for use throughout the program, with the understanding locals will not recollect their map spots to meet the needs of the program.
2) Monitor GSSI for how local map spots are uploaded into the MTdb.
3) Decide on policy for which type of map spots are preferred for ingestion into the MTdb prior to publication of the Federal Register Notice.
4) All policies related to map spots on LUCA materials should take into account tribal lands and military installations, as well as water blocks.
5) Even if field staff use follow the procedures, GPS errors resulting from data collection may lead to misplaced MSPs in the MTdb and in products distributed to the public.

Activity: 1.9 Using Collection/Tabulation Blocks for LUCA Materials

History/Lessons Learned:
1) Lack of consistency in geography between decennial censuses. Define collection blocks early enough to utilize throughout LUCA, and also educate participants on why we have collection blocks to facilitate fieldwork, and the best way to ensure we will find it in the field is for them to use collection block (as opposed to tab blocks, something with which they are more acquainted).
2) Participant submissions were not consistent in terms of geocoding; some had block suffixes, some did not, others partially suffixed. 1. In the future only use 2010 TAB blocks which avoid suffix problems. 2. Improve scrub software to check for correctly formatted blocks. 3. Delineate collection blocks before LUCA.
3) Updating MAF was difficult due to inconsistent geography throughout program (LUCA was 2007 TAB block, Feedback was 2009 TAB, etc.).

Recommendation(s):
1) Use the same geography throughout the life of the program. Decide on the geography before the publication of the Federal Register Notice. Delineate the geography before the production of the LUCA Initial Review materials.
2) See if GEO develops different geographic area other than collection/tabulation blocks for use in LUCA and other geographic programs.
3) Consider allowing GUs to submit their addresses to GEO's geocoding service and then having them review the results. This will allow the Census Bureau to choose the geography level for geocoding and prevent geocoding mistakes by the GUs.

Activity: 1.10 LUCA Cutoff (Start of Address Canvassing or Census Day)

History/Lessons Learned:
1) LUCA rules allowed deadline for added addresses to be "by Census Day" but probably should have only been by address canvassing timeframe given all the Address Canvassing deletes of LUCA adds that were not built yet (and were probably either appealed or re-added in New Construction).

Recommendation(s):
1) Choose a date, define it, and reiterate as often as needed to necessary parties. This is also dependent on decision about targeted canvassing (i.e., we have to ask for everything (even unbuilt units) if we do targeted AC).
2) Make the start date of the first field verification operation (e.g., Address Canvassing) the LUCA cutoff for addresses. Make GUs aware that they should participate in the New Construction program to provide new addresses built between Address Canvassing and Census Day.
3) Make Census Day the LUCA cutoff for addresses. Administrative records can be used to verify addresses that are not built by the start of Address Canvassing and deleted by the listers.

Activity: 1.11 Apartments Submitted Without Unit Designations (Use of *)

History/Lessons Learned:
1) The asterisk in address lists was used inconsistently by different governments. HQ had trouble determining how each participant interpreted the use of an asterisk. Test the use of other methods, such as submitting a unit count at the BSA and the name of the apartment complex.

Recommendation(s):
1) Eliminate the use of an asterisk. It leads to other errors (i.e., participants will invent a number scheme if units are not built/numbered yet). Consider the use of other methods, such as submitting a unit count at the BSA and the name of the apartment complex/facility.
2) Investigate the Federal Geographic Data Committee's policy for addressing to see if they have recommendations for unit numbering.
3) Monitor the GSSI to see how they handle the situation.
4) Determine how to pass the intelligence regarding unit count to FLD (e.g., have regions attempt to fix these on-the-fly during LUCA by working with building manager or apartment/condo association, or perhaps flag it for targeted AdCan/verification) so we can get the correct unit designations. Also, explain to participants that the units can be submitted in New Construction if the unit numbers are known by then.
5) Research use of administrative records to fill in missing unit numbers.

Activity: 1.12 E-911 Addresses

History/Lessons Learned:
1) Option 1 was not allowed to give an address crosswalk to accompany E-911 addresses, creating duplication.
2) E-911 issues: GUs provided no ZIP codes or incorrect ZIP codes, which meant the ZIP code had to be derived during processing; Entities were not requested to link E-911 addresses to RR addresses because it was not believed they could do it accurately and consistently. This meant that Address Canvassing had to perform the linkage, but that capability did not exist on the handheld.

Recommendation(s):
1) Allow GUs to link E-911 addresses to noncity-style addresses. The GUs could flag each E-911 address as mailable/not mailable/unsure. This is especially important for GUs that are P.O. Box only and do not have mail delivery to the HUs.
2) Research the possibility of the GUs linking E-911 addresses to location descriptions. Location descriptions are a separate category from noncity-style addresses and should be treated separately. Location descriptions can change so the information they provide is not always the most helpful. Get feedback from locals on their use of location descriptions.
3) The Census Bureau should work with USPS on linking noncity-style addresses to E-911 addresses. Work with the USPS to also determine ZIP codes for the E-911 addresses.
4) Follow GSSI to see how they handle the issue.

Activity: 1.13 Site Inspections

History/Lessons Learned:
1) As part of its approval of the 2010 LUCA Program, under which the Census Bureau provides option 1 and option 2 participants address data that are Title 13 confidential, the Data Stewardship Executive Policy Committee (DSEP) set a requirement that "selected security inspections will be conducted at all levels of government." LUCA participants agreed to adhere to specific requirements for the protection of Title 13 data when they completed the Confidentiality Agreement form and the Self-Assessment Checklist for the Confidentiality and Security Guidelines. The Census Bureau provided them with the detailed requirements in the Confidentiality and Security Guidelines. In completing and signing the Self-Assessment Checklist for the Confidentiality and Security Guidelines, the participants agreed to on-site visits for the assessment of their compliance with requirements for securing Title 13 materials.
2) The regional staff contacted the LUCA liaison for the GUs in their region to determine if the GUs met the selection criteria. GUs were contacted until two were identified as meeting the selection criteria. If a GU requested to consult with their lawyer before agreeing to a site visit, the GU was allowed to take a few days to confer with their attorney, but the GU ultimately needed to respond either yes or no to the visit.
3) One of the goals of the inspections was to create an opportunity for Census staff to learn from participants about how to improve our approach to data confidentiality and security. The initial site inspections were supposed to be conducted for those participants that were actively engaged in their review or completed their review of confidential materials within the previous six weeks.
4) If the liaison was unable to meet with regional staff for the site inspection or was unable to submit a completed questionnaire at the time of the inspection, the RCC immediately closed out the GU as a LUCA program participant. If a GU was unable to satisfactorily remedy infractions or did not respond to letters from the regional staff, the RCC immediately closed out the GU as a Title 13 LUCA program participant.
5) The RCCs performed 24 site inspections of LUCA participants' offices, even though the HQ gave no explicit training to the RCCs on assessing the security of computer networks. The RCCs requested clarification on security guidelines, but there was a long wait for answers from HQ or the RCCs never received answers from HQ. Other divisions in HQ need to provide better support to regional staff required to conduct security inspections.

Recommendation(s):
1) Confer with Census legal staff to determine the need and requirements for site inspections.
2) The site inspections should be conducted by an IT staff member (whether HQ or RO) and a LUCA subject matter expert properly trained on IT security.
3) Site inspections should be included in the program budget so there is no need to submit an unfunded request.
4) Work with Census statistical staff to determine the proper number of site inspections that should be performed.
5) The procedures for conducting a site inspection should be mentioned during technical trainings and included in the user guide. This way the GUs will know what to expect during a site inspection and there will be less disruption for them.

Activity: 2.1 Prepare/Publish Federal Register Notice

History/Lessons Learned:
1) Federal Register Notice published on time.
2) The comments received were reviewed through the proper channels for legality.

Recommendation(s):
1) List of items recommended to be published in Federal Register Notice from other LUCA Activity Review Sheets:
   - Policy regarding addresses within AIAs
   - Policy regarding addresses on military installations
   - Use of map spots on LUCA products
   - Which type of map spots are preferred from locals
   - Which geography (collection, tabulation, or other) will be used for LUCA products
2) Make sure all relevant policies are determined prior to the submission of the Federal Register Notice.
3) In order to avoid delays, build sufficient time into the schedule for getting approval from Census management and for incorporating comments and revising the Federal Register Notice, as well as any relevant documents (e.g., procedures) needing to be revised based on the comments.

Activity: 2.2 Prepare/Publish Appeals Federal Register Notice

History/Lessons Learned:
1) The Appeals Federal Register Notice was published on time.

Recommendation(s):
1) In order to avoid delays, build sufficient time into the schedule for getting approval from Census management and for incorporating comments and revising the Appeals Federal Register Notice, as well as any relevant documents (e.g., procedures) needing to be revised based on the comments.

Activity: 3.1 Prepare/Submit PRA Clearance package

History/Lessons Learned:
1) Determination of the LUCA program requires review by the OMB under the Paperwork Reduction Act. For the 2010 Census, this review was undertaken just nine weeks prior to the July 17, 2007 scheduled mailout of the LUCA invitation packages. This oversight necessitated a request for an expedited review of the LUCA materials in order to allow the Census Bureau to mail the invitations to meet the scheduled date. Once an OMB clearance number is obtained, it must appear on each form invitees and participants are requested to fill out and submit. Any delay in obtaining the OMB clearance number results in delays for creating and printing the forms thereby delaying scheduled program dates.
2) The estimated time for completing the program participation must be published in the user guides in order for the participants to schedule and allocate resources for their review.
3) There was a gap between the submission of the PRA clearance package and the start of OMB approval due to OMB delays. (11/28/07 submission ends, 1/28/08 approval starts)
4) It was time consuming for TLGPB to determine the burden hours for each LUCA activity. TLGPB has to determine the burden hours for the appeals process before any products were developed, which led to the hours reported in the PRA clearance package being less than the actual hours required.

Recommendation(s):
1) In order to avoid delays, build sufficient time into the schedule for getting approval from Census Bureau management and for incorporating comments and revising the PRA clearance package.
2) Submit the PRA clearance package sooner. A draft version is acceptable for submission.
3) The burden hours for the 2020 LUCA should be based on the revised estimates created after all products were created.

Activity: 3.2 Obtain PRA Approval from OMB

History/Lessons Learned:
1) There was a gap between the submission of the PRA clearance package and the start of OMB approval due to OMB delays. (11/28/07 submission ends, 1/28/08 approval starts)

Recommendation(s):
1) In order to avoid delays, build sufficient time into the schedule for getting approval from OMB and for incorporating comments and revising the PRA clearance package.

Activity: 4.1 Write LUCA Plan

History/Lessons Learned:
1) The *2010 Local Update of Census Addresses (LUCA) Proposal* (Pfeiffer and Franz, 2005) outlined the plans and proposals that provided the foundation and guide for the 2010 LUCA program. Based on evaluations (e.g., GAO, OIG, and NAS reports) and participant surveys of the 2000 Census LUCA program, this proposal was intended to bridge the gap between project planning and implementation by determining participant interest in and demonstrating design changes to the LUCA products, participant procedures, production systems, processing systems, control systems and reporting systems. From these various components, the LUCA proposal formulated the goals and objectives that implemented the suggested improvements to the program.
2) The LUCA Plan is a different document than the LUCA Operational Plan, written in 2010.

Recommendation(s):
1) The LUCA Plan is a living document that should be the responsibility of the LUCA Implementation Team to manage.
2) Budget allocations should be included in the next LUCA Plan.
3) The next LUCA Plan should be written in mid-2015 and include the results from the 2020 R&T phase and relevant evaluations.
4) If not completed in time, then a draft version of the LUCA Plan may be used to provide information to the Redistricting Office for their tour of the states, during which RDO describes all the geographic programs.

Activity: 4.2 Write Appeals Plan

History/Lessons Learned:
1) OMB wrote the Appeals Plan for 2010 LUCA.

Recommendation(s):
1) The Appeals Plan should be written in conjunction with OMB (assuming OMB is still involved with the program). If it is not OMB, then the decision on which office/agency will be running the Appeals Office should be decided on in early 2018.
2) There should be activity lines in the official schedule for the Appeals Plan.
3) The Appeals Plan should include information regarding the following:
   - Tracking and storage of Title 13 materials
   - High-level requirements for data transfers between the Appeals Office and Census HQ
   - Having adequate staffing in place to handle incoming telephone calls when the Feedback materials are shipped out to locals
   - Tracking telephone from locals and receiving documentation on telephone calls received by the ROs
   - Training Census staff on any materials sent to locals by the Appeals Office
   - Procedures for announcing policy changes
   - Tracking and storage of documents deemed not valid for appeals
   - Timeline for getting successfully appealed addresses processed and included in the Census universe

Activity: 5.1 RDO Publicity Blurb

History/Lessons Learned:
1) The Redistricting Office does a tour of the states, where they talk to state legislative leaders and state GIS offices, establishing contacts for the Redistricting Data Program. Traditionally, the RDO staff discusses upcoming geographic programs, including schedules and changes from previous programs. For 2010 LUCA, they discussed such things as software changes and the importance of participation.

Recommendation(s):
1) If the LUCA Plan is not finalized by the time the RDO needs information on 2020 LUCA, then the draft version of the LUCA Plan can be utilized.
2) The LUCA implementation team should be made responsible for determining what information is sent to RDO.
3) Continue to discuss all communication materials with the Associate Director for Communications Office and the Public Information Office.

Activity: 5.2 Write/Print Promotional Workshop Participant Workbook & Instructor's Training Guide

History/Lessons Learned:
1) Contractor developed the participant workbook distributed at the LUCA promotional workshops.
2) Census stakeholders kept requesting more information in the workbook, but many felt the workbook was too long and too detailed. RO staff did not always cover all the material in the Promotional Workshop Instructor's Training Guide because there was too much detailed information to cover in the allowed presentation time.
3) GUs submitted the sample registration form that was in the back of the workbook. Some attendees asked why they could not just sign up at the promotional workshop.

Recommendation(s):
1) A short LUCA brochure or booklet that provides an overview of the programs should be distributed to the locals who attend the promotional workshops, along with a copy of the slides used at the presentation.
2) The type of promotional materials will change if the following recommendations from Activity Review Sheet 5.3 are carried out:
    - Most of the promotion for 2020 LUCA should be conducted over the internet and via email, as well as through local outreach through the GSS-I.
    - Census Bureau staff should continue to speak at national, regional, and state level conferences to promote the program, getting the word out to a large audience all at once.
3) Do not include a sample registration form in the materials handed out in the promotional workshop. Instead, provide actual registration forms for attendees to either fill out at the workshop or to take back with them to complete and mail in.
4) If a contractor is used to develop the workbook, make sure what is required of them is made clear. To help shorten the amount of time that it takes to develop the workbook, limit the number of iterations of the document between Census Bureau staff and the contractor staff. This will help ensure that materials are completed and printed on time.
5) There should be a list of anticipated questions in the instructor's training guide that the instructor can use as a guide for answering questions from the locals.
6) Minimize duplication in content between the Promotional Workshop materials and the Technical Workshop materials.

Activity: 5.3 Conduct LUCA Promotional Workshops

History/Lessons Learned:

1) In order to expand communication and promote participation, the ROs conducted promotional workshops from March 2007 through June 2007 that provided additional information about the LUCA program, emphasized the purpose and importance of the program, described the program options, confidentiality requirements, participant responsibilities, and the program materials supplied by the Census Bureau.

2) The regional geography staff was expected to begin the LUCA Promotional Workshops around March 1, 2007. This allowed NPC time to mail the Advance Notice Contact letters and for the Geography Division to get the Promotional Workshop Instructor and Participant Guides printed and shipped to the regions in February. (Actual Start Date 2/6/07?)

3) Tasks the RO staff performed in preparation for workshops:
   - Contacted SDCs that told the Census Bureau that they would like to participate in or conduct workshops.
   - Scheduled the actual dates, times and locations for the workshops.
   - Trained SDC and regional office staff, if needed, to conduct the workshops.
   - Arranged to have RO staff receive train-the-trainer training.
   - Estimated the RO travel cost of conducting the workshops.
   - Located free space for the workshops including a screen for each.
   - Invited GUs to the workshops.
   - Obtained operational laptops and Data Show type projectors.
   - Submitted a planning/reporting worksheet to Geographic Support Branch.

4) The RO staff submitted a LUCA Promotional Workshop monthly report and was responsible for updating the GPP after each workshop.

5) It was recommended that regions limit the number of attendees to twenty people or fewer, and that the workshop should last approximately two hours. Some people felt that the workshops were too long. 1. Explain the necessity for length before beginning the session. 2. Look for ways to simplify the program and it may lead to simpler training. 3. Acknowledge that the sessions will be longer and more complicated for the attendees, as the program becomes more complicated. 4. Encourage Regions to tailor sessions to attendees (e.g., digital only).

6) Workshop materials were received by the ROs after 30-40% of the workshops had been conducted.

7) Changes to workshop materials after they had already been printed placed the burden of explaining and justifying the changes with the RO geography staff.

8) The MTPS software was not able to be demonstrated at the workshops.

9) In some cases, the SDC provided assistance with securing facilities or providing local contacts to assist in locating facilities. Also, representatives of the SDC often attended sessions, which was good for the local GUs to see the SDC supporting census efforts.

10) Most ROs agree that the SDCs should not conduct the workshops, but should provide support.

11) Time gap between workshops and mailing of invitation letters may diminish the positive effect the workshops had on facilitating public participation.

12) For one RO, video sessions were an effective way of presenting the promotional workshop material.

13) Partnership & Data Services staff was a big help in giving advice and attending some of the workshops. At some points they acted as a back-up when RO staff thought they might not get to a venue on time.

14) SDCs felt that the impact on local communities of nonparticipation in LUCA should be included in the workshops.

15) Information at promotional workshops and program trainings overlap. 1. Make differences more clear. 2. Continue to do evaluation surveys at the end of workshops and trainings. 3. Combine both into one session that is repeated multiple times.
16) According to the participant survey, 66.0 percent of the GUs felt that attending a promotional workshop helped influence participation in the program. In addition, participants that choose all computer-readable materials were more likely to attend a promotional workshop.

Recommendation(s):
1) In an effort to minimize costs, most of the promotion for 2020 LUCA should be conducted using the methods and communication routes developed through the GSS-I, especially via the internet and email. Registration could also be handled via internet and email.
2) Census Bureau staff should continue to speak at national, regional, and state level conferences to promote the program, getting the word out to a large audience all at once. Promotion should also be done early on through meetings with key statewide stakeholders (e.g., Secretaries of State, etc.), large city governments, and mayors of targeted canvassing and hard-to-count communities.
3) Use technology such as webinars and video teleconferences as much as possible to eliminate the need for in-person promotional workshops.
4) Work with staff from the Associate Director for Communications Office and the Public Information Office to discuss methods for getting the word out about LUCA.
5) Any promotional materials/workshops should cover the highlights of the program, such as the timeline, the options, the possibility of coordinating with other GUs/NGOs, using a higher-level government as their liaison, and the benefits of participating. In other words, we need to better "sell" the LUCA program to potential participants.
6) It should be made clear that technical training will only be received after registration, not during promotional meetings.
7) A final LUCA plan would greatly enhance the workshop instructor's ability to answer participant questions, enabling them to make a more informed decision for participation in the program.
8) In order to maximize the impact of the promotional efforts, reduce the time gap between the promotion of LUCA and the mailing of the invitation letters.
9) In addition to the relationship between LUCA and Address Canvassing, promotional materials should include information on the overall decennial census process and how addresses can be affected by each operation.
10) Follow the model of the NYRO/NYRCC and work to get continuing education credits via planning certification organizations for workshop attendees.
11) Make sure the contents of the technical workshop and how it is different from the promotional workshop is clear and public information before either set of workshops begin.
12) Regional staff should submit to HQ suggestions for what they would like to see in the promotional workshop materials and HQ staff could use those suggestions when designing the workshops. Regional staff would have the opportunity to review and comment on the materials as they are being developed.

Activity: 5.4 Paper-Based & Computer –Based Training Software

History/Lessons Learned:
1) There was a time crunch for the contractor to complete the training software. The software was being developed while comments were still coming in for the Federal Register Notice.
2) The training software was sent out with the LUCA invitation package.
3) Computer-based training was not wanted by the paper-based participants.

Recommendation(s):
1) Involve all stakeholders early in the development process and solicit feedback often.
2) Utilize the available technology as much as possible. Design a web-based training with interactive components and videos for use by the participants. For those not willing or capable of using the web-based training, produce a CD that can be shipped to them.
3) Knowing the details of the computer-readable products is crucial to developing the training software.
4) If a contractor is used to develop the training software, make sure Census Bureau staff has the ability to add/remove/change any slide up to the point of release.
5) Get copies of the software to RO geographers earlier so they can better assist participants in use of the software.
6) Provide more information to the GUs during training on how the LUCA submission tool can be used during the Feedback & Appeals phase.
7) Incorporate more information on selecting different media types and participation options (if there is more than one option).

Activity: 5.5 Write/Print Technical Training Participant Workbook & Instructor's Training Guide

History/Lessons Learned:
1) Many felt the workbook was too long and too detailed, though there was not enough information regarding digital updating.
2) Sample add pages from the workbook were submitted by participants. These pages were not the correct size for add pages and did not sort properly in NPC's system.

Recommendation(s):
1) Involve all stakeholders early in the development process and solicit feedback often.
2) Most training will be conducted utilizing web-based resources and video conferencing, so the contents of the training materials will need to be structured to follow the flow of those training methods.
3) The will likely be less staff available in 2017 to conduct in-person technical trainings, so be aware of who is conducting the trainings and tailor the instructor's training guide accordingly.
4) Since it is likely that number of participants using computer-readable products will increase, make sure that digital updating is well covered.
5) Display a sample Access or Excel format in the workbook and include instructions on how to use the format. This will make it easier for the participant to apply what they learn to their own software.
6) Keep the sample add pages in the workbook, but prefill them with ersatz data and put "Example" in the watermark.
7) NPC has a contingency plan for any submissions that are the incorrect paper size.
8) Regional staff should submit suggestions for the workbook/training guide to HQ. The suggestions would be very helpful in designing the materials. Regional staff would have the opportunity to review and comment on the materials as they are being developed.

Activity: 5.6 Conduct LUCA Technical Training Sessions

History/Lessons Learned:
1) From August 2007 through February 2008, Census Bureau ROs, in conjunction with state data centers, and regional planning and development agencies offered LUCA training workshops that provided participants with detailed examples and instructions for undertaking their LUCA review and submitting their address lists to their Census Bureau RCC.
2) The technical training materials were developed by a consultant with supervision by and in consultation with the LUCA staff.   All of the information about the program was included in the training so that instructors could use it verbatim or tailor it to their specific needs. In addition, the consultant created a computer-based training (CBT) CD-ROM that was mailed with the invitation and registration materials to familiarize the invited governments with the program, the program materials, the procedures for their address list review, and how to make address, feature, and legal boundary map updates. The participant survey shows that 84.0 percent of the responding participants found the CBT very helpful and somewhat helpful. The CBT was most helpful for larger governments that used electronic media than for smaller governments that selected paper products.
3) In addition, a CBT CD-ROM for the MTPS was included in the invitation and registration package. Of those that attended a training workshop, 74.0 percent felt that the workshop demonstrations were sufficient in instructing them for MTPS use.
4) The participant survey found that participants who selected electronic media were more likely to attend a training workshop. The ROs felt the workshops did not show enough about computer-readable products, due to a delay in decisions about the format and the software development. Promote electronic products more in future trainings and workshops. Also, regions can tailor sessions to make digital-only sessions. Also, e-learning materials (e.g., web-based class) could be developed to enhance the training for computer-readable.
5) Although nearly one-third of the participants that attended a training workshop influenced their decision to participate in the LUCA program, the training workshops were more effective in helping them understand the program materials and procedures.
6) Even though training was lengthy and confusing, the ROs reported that training helped participants decide to participate, reinforcing the responses documented in the participant survey. In addition, the ROs reported that the training workshops gave contact between the Census Bureau and the participants and helped the participants understand what would be involved to formulate their LUCA review plan.
7) Sometimes the HEO attended the training session, not the actual LUCA liaison that was going to work on the submission.
8) Another concern was the lack of information in training for the use of the pipe-delimited format. According to the LUCA assessment, the Help Desk received 946 calls in reference to file conversions. If the pipe-delimited format is used in the future, instruction on its use should be part of the training as well as detailed instruction in the user guide for the most common software.

Recommendation(s):
1) Decisions regarding the computer-readable products should be made in a timely manner to allow for the technical trainings to feature the products.
2) Conduct the technical trainings using e-learning materials (e.g., web-based trainings utilizing CBTs and videos). Having the training available on the web allows the participants to go back and review the training any time they want.
3) Registration could be handled via internet and email.
4) In-person technical trainings could also be offered at national, regional, and state conferences.
5) Create a CD containing the technical trainings for those participants that prefer that format.

6) To better illustrate the LUCA updating process, and since some topics do not translate well to PowerPoint slides, technical trainings should include:
   - Demonstrations of address list updating using dummy data.
   - Demonstrations of file conversions.
7) Involve all stakeholders early in the development process and solicit feedback often.
8) Make sure the LUCA liaison is invited to the training.
9) For any in-person trainings, make sure the instructor has the proper equipment (e.g., laptop, projector).
10) Training sessions should last for 2-3 hours.
11) If Address Count Lists are one of the products created for 2020 LUCA, the time should be taken to explain them thoroughly. Consider design options (for example, printing them on the map product) that make them more intuitive to use.
12) Arrange for continuing education credit for planners.

Activity: 5.7 Coordination Between GUs and Partners

History/Lessons Learned:
1) There were issues with data sharing between GUs during 2010 LUCA. The higher government submitted addresses with the codes for the town they were liaison for, causing PURS to reject those addresses. There were potential Title 13 violations because locals may have seen address information for other entities.
2) Multiple letters were sent to same contact that represented more than one LUCA participant.
3) The MTPS software did not allow multiple individuals or GUs to update the same address list.

Recommendation(s):
1) LUCA participants should be reminded that the Title 13 agreement only covers them for viewing their own entity's address information. Title 13 training should cover the concept of unauthorized browsing of address information.
2) For liaisons that represent multiple GUs, the liaison should be asked how they prefer to receive communications from the Census Bureau, a letter for each entity or one combined letter.
3) One possible way to help spot cases where one liaison is representing multiple GUs is to, during registration, assign each liaison an ID number and then track the contact information using that ID number.
4) During registration, have the GUs provide the name of the higher-level government that will be serving as their liaison or indicate the liaison works for another government with a check box in row C-3 on the registration form.
5) Make the GUs aware of the issue with entity codes. Look into an automated correction for the entity code problem, either in the participant software or the automated preprocessing system.
6) Make clear to participants which criteria the Census Bureau will use when choosing between conflicting updates provided by multiple governments.

Activity: 5.8 Questions and Answers Document (FAQs)

History/Lessons Learned:
1) The state of Florida on their LUCA website had a fantastic question and answer forum that should be replicated for RO and HQ use to answer questions.
2) Perhaps an on-line Q&A (something like a "chat") could help to answer any questions.

Recommendation(s):
1) In addition to posting the Q&A document on a website, there could be a forum (e.g., blog, message board) for participants to leave questions and have the opportunity to answer each other's questions.
2) The Q&A document needs to be continually updated as the LUCA program progresses and new questions arise.
3) The Q&A document should contain examples of LUCA updates generated from a large sample data set.

Activity: 5.9 Toll-free Telephone Number (and Email Address)

History/Lessons Learned:
1) Calls to the toll-free telephone number were supposed to be routed to the proper office within each RO based on the caller's area code. The automatic routing of the toll-free telephone number caused problems in split states and when people had cellular phones with area code telephone numbers keyed to a different geographic area.
2) Re-routing the toll-free RO/RCC number from the RO to RCC required careful coordination. We definitely need to make sure any telecommunication contract allows for this routing & we need to make sure that the FLD/GSB staff is aware of these procedures early on.
3) There was a second toll-free telephone number for the LUCA Help Desk. Having two numbers caused some confusion for the GUs. Although the participant survey asked separate questions about the Help Desk and RCC helpfulness, respondents had difficulty in differentiating between them at the time of the survey. As the survey notes, since the telephone numbers were different, LUCA liaisons may only remember calling someone at Census with their problem or issue. Since the ratings for telephone assistance were nearly the same for the Help Desk and the RCCs, the respondents may have regarded them as the same single support function.
4) Some GUs called both toll-free telephone numbers trying to get the answer they wanted. So, it would have been better if there was a shared, real-time call logging system that both the RO and LUCA Help Desk could access.
5) When RO staff received emails from local governments concerning technical and/or security questions, the emails were supposed to be forwarded to the LUCA Help Desk.
6) Most of the emails received at HQ were forwarded to the LUCA Help Desk, the rest to the ROs.

Recommendation(s):
1) There should only be one toll-free telephone number that allows voice-mail routing.
2) The toll-free telephone number could have an automated menu that directs the caller to the proper staff member based on why they are calling (i.e., procedural vs. technical question) and where they are calling from.
3) Have all calls go to the ROs, then transferred to the LUCA Help Desk if the caller's questions are too technical.
4) Emails coming in through the official LUCA email address should come into HQ and then be forwarded to the appropriate location (i.e., RO or LUCA Help Desk), possibly in an automated fashion. Emails received by the ROs through other email addresses can be answered by the RO if possible or forwarded to the LUCA Help Desk if the question is too technical. Utilize the latest technology that will allow all LUCA-related emails (incoming and outgoing) to be uploaded directly into the PCS/GPP (or some other archiving/tracking system).
5) Utilize the latest technology that will allow emails and telephone call logs to and from the LUCA Help Desk to be uploaded directly into the system (i.e., the PCS/GPP) used by staff interacting with GUs.

Activity: 5.10 Conduct Survey of Participants & Nonparticipants

History/Lessons Learned:
1) During the initial phase of LUCA in the fall of 2007 and 2008, GUs could tell us why they did not participate on the registration form. There were no follow-up if the GU did not answer the questions. Enough GUs answered the questions to be statistically valid.
2) The nonparticipant survey for the 2010 Census LUCA program was designed to collect reasons for nonparticipation at or near the time a government decided to not participate in the program. The survey identified three phases when the Census Bureau would first become aware of a government's decision not to participate. The first phase included responses to the invitation and registration. The second phase included responses requested from governments that had registered for the program but later dropped out, and the third phase included responses requested of governments that registered for the program and received materials but did not inform the Census Bureau of their decision to drop out of the program and did not provide updates to the Census Bureau.
3) Based on the results, the survey identified resource-related constraints as the major factors in the respondent governments' decision to not participate in the LUCA program. The survey's recommendations are to provide future participants with cost saving benefits that include a continuous address review program to lessen the burden of financial and staff resources that a once-a-decade address review places on participants.
4) The Census Bureau sent GUs that used electronic products for LUCA, or those that the Census Bureau had an email address, the "Online Letter" giving the name of the GU's LUCA liaison and explaining how the HEO or liaison could take the survey online. The Census Bureau sent the remaining approximately 1,000 participants who participated with paper products and do not have an email address on file with the Census Bureau, the "Paper Letter". This survey of participants was not planned for in the 2010 process.
5) Those GUs that used electronic products but refused to do the survey online, were sent a paper copy of the online version of the survey.

Recommendation(s):
1) The questions regarding nonparticipation should continue to be asked at the time of registration during the initial review.
2) For the survey of participants, an independent third party (a contractor) should be hired to wordsmith the questions so they are not biased.
3) The survey of participants should be conducted closer to when the GU is closed out of the program.
   a. If the GU does not participate in the Appeals process, then they should immediately get the survey.
   b. If the GU does participate in the Appeals process, then they get the survey once the appeals process ends.
   c. If the GU drops out after signing up for the program, then they should immediately get the survey.
4) The GUs should be instructed to use the direct link to the online survey provided in the email they receive. They should also be told not to insert the URL into a search engine, or the Census Bureau should ensure the metadata for the webpage containing the survey is set properly so that it is returned as the number one result from the search.

Activity: 6.1 Write/Deliver NPC/RO Procedures - Phase 1 Operations (Invitations, Training, Initial Outgoing Review Materials)

History/Lessons Learned:
1) To help ensure the RCC staff is handling things uniformly (e.g., communication with locals, processing, etc.), rules and procedures regarding submissions and returns needs to be in place prior to the mailing of the invitations.
2) Co-authoring of RCC procedures between TLGPB and GSB worked out well, as did multiple update releases. In the future would repeat the process, preferably with larger chunks in each release.
3) The procedures did not cover plans for the RO/RCC move, such as the new phone numbers and mailing addresses for the RCCs.
4) Final procedures need to be distributed better than the traditionally used RCC Binder. As a tool, it does not reflect the likely future of procedures: they will evolve as technology changes and we better learn to use new technologies through the length of a program as long as LUCA.
5) We need to make sure all of the RO/RCC infrastructure (e.g., SAMBA sharedrives and Business Return Mail Permits) are accounted for in the FLD Space & Leasing/Logistics planning.
6) Plan for end-of-program archiving in our procedures to decrease the amount of time needed by RO and HQ staff for cleanup at the end of the program.

Recommendation(s):
1) Finalize the procedures prior to the mailing of the invitations to the GUs.
2) The RO to RCC transfer needs to be taken into account when developing the procedures. The contact information for the RCC should be included.
3) Utilizing the latest technology, develop a system for receiving and processing submissions that is independent of location, thereby eliminating the concern about transferring materials between locations.
4) Alert users via email when an updated version of the procedures has been placed on the shared system.
5) Incorporate end-of-program archiving into the procedures.
6) Incorporate an overall list of steps or description of the entire span of the program in all training materials.

Activity: 6.2 Write/Deliver NPC/RO Procedures - Phase 2 Operations (Review & Processing of Participant Submissions)

History/Lessons Learned:
1) To help ensure the RO staff is handling things uniformly (e.g., communication with locals, processing, etc.), rules and procedures regarding submissions and returns needs to be in place prior to the ROs receiving packages.
2) Co-authoring of RCC procedures between TLGPB and GSB worked out well, as did multiple update releases. In the future, repeat the process, preferably with the procedures for the entire program submitted for release, or at least larger chunks in each release.
3) The procedures should contain a wider variety of examples of potential errors that the GUs can make.
4) Final procedures need to be distributed better than the traditionally used RCC Binder. As a tool, it does not reflect the likely future of procedures: they will evolve as technology changes and we better learn to use new technologies through the length of a program as long as LUCA.
5) Procedures need to plan for data transfer, double checking of data transfers, and file naming conventions that will work throughout the life of the program and facilitate easy archiving.
6) We need to have good, short, summary "Quick Reference" sheets for RO staff to use when processing. If we don't create them, the RO staff will, which may lead to inconsistency.
7) Plan for end-of-program archiving in our procedures to decrease the amount of time needed by RO staff for cleanup at the end of the program.

Recommendation(s):
1) Finalize the procedures for the entire program prior to the ROs receiving submission packages from the GUs.
2) Based on the submissions received during the last two LUCA programs, develop examples of potential errors the GUs may make for the procedures.
3) Utilizing the latest technology, develop a system for receiving and processing submissions that is independent of location, thereby eliminating the concern about transferring materials between locations.
4) Alert users via email when an updated version of the procedures has been placed on the shared system.
5) The procedures need to contain plans for data transfers, including the review of data transfers to ensure the correct files were transferred and the file naming conventions that should be used by everyone.
6) Incorporate end-of-program archiving into the procedures.
7) Develop a quick reference sheet for the RO staff to refer to when processing LUCA submissions.

Activity: 6.3 Train Write/Deliver NPC/RO Procedures - Phase 3 Operations (Feedback & Appeals)

History/Lessons Learned:
1) To help ensure the RO staff is handling things uniformly (e.g., communication with locals, processing, etc.), rules and procedures regarding submissions and returns needs to be in place prior to the mailout of the Feedback packages.
2) Procedures did not adequately provide for tracking questions/complaints. Thus, there are no metrics.
3) ROs did not have their own copies of the materials that the GUs had (not identical ones), so they struggled with answering some questions.
4) Procedural/policy changes were not always communicated to FLD/ROs in a timely manner, resulting in them learning of changes from the GUs.
5) Integrate receipt conformation and/or password distribution plans into the original procedures. Follow-up calls may still be necessary, but it would be nice to have a plan up front.
6) Final procedures need to be distributed better than the traditionally used RCC Binder. As a tool, it does not reflect the likely future of procedures: they will evolve as technology changes and we better learn to use new technologies through the length of a program as long as LUCA.
7) Plan for end-of-program archiving in our procedures to decrease the amount of time needed by RO staff for cleanup at the end of the program.

Recommendation(s):
1) Finalize the procedures prior to the mailing of the Feedback packages to the GUs.
2) Utilizing the latest technology, develop a system for receiving and processing submissions that is independent of location, thereby eliminating the concern about transferring materials between locations. Copies of the materials sent to each GU should be placed on the shared system.
3) Use the latest technologies to update users about changes in procedures (e.g., via email alert).
4) The procedures need to contain guidelines on answering GUs' questions, as well as plans for the tracking of questions/complaints from GUs.
5) Incorporate into the procedures the process for receipt conformation and password distribution.
6) Incorporate end-of-program archiving into the procedures.

Activity: 6.4 Train NPC/RO on Phase 1 Activities

History/Lessons Learned:
1) Changes in the procedures or systems (e.g., GPP, PCS) can result from the trainings.
2) Schedule training sessions closer to actual start of program. Live training is often scheduled for well before a program actually begins. Thus, trained staff can grow rusty at their skills before they can implement them.
3) Control systems were not fully developed when the trainings were conducted.

Recommendation(s):
1) If possible, try to utilize existing control systems that only require minor adjustments in order to be used for LUCA instead of creating systems from scratch. If new systems need to be developed, start early enough so that the systems are available for the trainings.
2) Bring NPC/RO staff into the loop earlier in the process of writing procedures and designing systems because they can help design more effective and efficient systems if they have input before training. Changes in the procedures or systems can result from the NPC/RO reviews, so it is better to capture them prior to the training sessions. The next recommendation suggests moving the trainings closer to the actual start of Phase 1, so any recommendations coming out of the training sessions may be too late to be implemented.
3) Schedule the training sessions closer to the actual start of the Phase 1 activities so the procedures are fresh in everyone's mind.
4) The NPC/RO training sessions must be viewed as "train the trainers" sessions given the increase in staff at the beginning of the LUCA program, and they can be responsible for rolling out the training to their respective staff, especially new staff. Design the trainings to make it easier for attendees to reuse modules when training other staff members.
5) HQ staff should meet with the NPC staff prior to the development of the procedures, so that they can get a better sense of what the NPC staff does for mailings and printings. What the HQ staff learns will then influence the development of the procedures and the trainings.
6) The training technologies, software, and computer systems have to be designed for all stakeholders to use, including the Work-At-Home geographers.
7) The closing out of GUs should be covered during the training. The specific scenarios for each phase that will allow a GU to close out of the program need to be covered.

Activity: 6.5 Train NPC/RO on Phase 2 Activities

History/Lessons Learned:
1) Changes in the procedures or systems (e.g., GPP, PCS) can result from the trainings.
2) Ad-hoc PURS training was conducted via webinar and VTC. There were issues with having a webinar using Title 13 information.
3) The RCC staff did more processing of address list submissions than originally envisioned for the program. The RCCs improvised various methods for cleaning up and reformatting digital address list submissions using MS Excel and MS Access. Provide better training to the RCCs on the use of MS Excel and MS Access and create scripts and templates for preparing files as part of the HQ processing design process.
4) The RCCs had to learn to use the MTPS on the job and refer a large number of questions from GUs and their own staff to HQ. The RCCs need more basic information about how to use the MTPS, and HQ needs to release the MTPS in time for RCCs to learn it before having to train GUs on it.
5) Schedule training sessions closer to actual start of program. Live training is often scheduled for well before a program actually begins. Thus, trained staff can grow rusty at their skills before they can implement them.

Recommendation(s):
1) Bring NPC/RO staff into the loop earlier in the process of writing procedures and designing systems because they can help design more effective and efficient systems if they have input before training. Changes in the procedures or systems can result from the NPC/RO reviews, so it is better to capture them prior to the training sessions. Recommendation 5 suggests moving the trainings closer to the actual start of Phase 2, so any recommendations coming out of the training sessions may be too late to be implemented.
2) Look into making the webinar software able to support training that utilizes Title 13 information. Otherwise, a training file containing an extensive amount of fake data will have to be developed.
3) Develop a more standardize file type so the RO staff will have to do less file clean up and reformatting. Provide the ROs with a more robust text editor capable of comparing large files.
4) If possible, try to utilize existing software that everyone is already familiar with and comfortable using.
5) Schedule the training sessions closer to the actual start of the Phase 2 activities so the procedures are fresh in everyone's mind.
6) The closing out of GUs should be covered during the training. The specific scenarios for each phase that will allow a GU to close out of the program need to be covered.

Activity: 6.6 Train NPC/RO on Phase 3 Activities

History/Lessons Learned:
1) Changes in the procedures or systems (e.g., GPP, PCS) can result from the trainings.
2) More examples of data structures should be included in the training.
3) The training attached to the Annual Geographic Conference worked well, but the information we had on the final layout of the Feedback address list and the procedures of the Appeals Office were incomplete and inadequate.
4) An additional webinar training covering the file layouts would have been useful. An attempt was made to cover this information during the hour-long weekly geography calls, but time kept running out.
5) Schedule training sessions closer to actual start of program. Live training is often scheduled for well before a program actually begins. Thus, trained staff can grow rusty at their skills before they can implement them.

Recommendation(s):
1) Bring NPC/RO staff into the loop earlier in the process of writing procedures and designing systems because they can help design more effective and efficient systems if they have input before training. Changes in the procedures or systems can result from the NPC/RO reviews, so it is better to capture them prior to the training sessions. The next recommendation suggests moving the trainings closer to the actual start of Phase 3, so any recommendations coming out of the training sessions may be too late to be implemented.
2) Schedule the training sessions closer to the actual start of the Phase 3 activities so the procedures are fresh in everyone's mind.
3) HQ staff can work on completing the Feedback materials earlier, but OMB is in charge of Appeals, so the LUCA team needs to work with OMB to finalize the Appeals procedures in time for the training.
4) Ensure file layouts are finalized prior to training, and are then covered adequately during the training.

Activity: 6.7 LUCA Help Desk

History/Lessons Learned:
1) Help Desk was established because there was a need for short-term staff that would be easier to let go and that would cost less than new GEO or RO staff.
2) The Help Desk was located near GEO subject matter experts so that communication between the two groups would be easier.
3) There was not enough information sharing between RO staff and the Help Desk staff.

Recommendation(s):
1) Staff the LUCA Help Desk with a core group early in the process so that they can assist with the development of user guides and other documents.
2) Bring the LUCA Help Desk staff to the NPC/RO trainings so that the three groups can get a better sense of the others' points of view and be better integrated.
3) Utilize the latest technology that will allow emails and telephone call logs to and from the LUCA Help Desk to be uploaded directly into the system (i.e., the PCS/GPP) used by staff interacting with GUs.
4) As the Help Desk responds to participant questions, the RO staff needs to be aware of the resolutions so they can handle similar questions in the future. A method of communication needs to exist between the RO and the Help Desk that would facilitate the two groups being more integrated and ensure each group has a clearer sense of what the other group is communicating to the public.

Activity: 6.8 Communication Between HQ and NPC/ROs

History/Lessons Learned:
1) Due to low staffing levels of FLD/GSB at the beginning of LUCA and the lack of control systems for tracking shipments from RO/RCCs to NPC and the comparison of uploaded files, GEO communicated directly with RO/RCC staff during several phases of LUCA (instead of routing all communications through FLD/GSB). This worked well because GEO was diligent in notifying FLD/GSB of patterns of problems or unique solutions developed by specific RO/RCC staff members.
2) Due to inconsistent use of an Ops Log document, the typical slow process of releasing revised memoranda and procedure documents, and the small number of experienced staff in FLD/GSB during some phases of LUCA, some procedure clarifications were not distributed evenly to all the ROs/RCCs.

Recommendation(s):
1) Maintain the Ops Log document using software that allows updates and edits to be easily found. The questions asked by the ROs should be reviewed for patterns, which may suggest that the procedures and ops logs need to be updated.
2) HQ staff should recognize when there is a larger issue with a RO based on the types of questions they are asking, and then the issue should be handled without blaming the RO.
3) Look into creating a blog for use by NPC/ROs so that their questions and the replies are seen by everyone.
4) There needs to be flexibility and adaptability when it comes to the organizational support for LUCA due to the changes in the regional infrastructure, especially when it comes to communication between the Work-At-Home Geographers and the ROs/HQ.
5) It should be recognized that not all the subject matter experts will be stationed at HQ. There are former HQ staff members working in the ROs and experienced RO staff that may be helpful answer questions and developing procedures and tools.
6) For accurate and complete program management and Title 13 data tracking, the LUCA PCS (or GPP) needs to be updated nightly (possibly via an automated data transfer from the shipping company) with detailed information about package shipping dates, tracking numbers, receipt dates, and who signed for each package. (Relevant for Section 9 as well.)
7) More information needs to go on the packing slips when sending materials to NPC so that there is enough information to allow staff to accurately unpack and route materials.

Activity: 6.9 NPC/RO Systems

History/Lessons Learned:
1) We need to make sure all of the RO/RCC infrastructure (e.g., SAMBA sharedrives and Business Return Mail Permits) are accounted for in the FLD Space & Leasing/Logistics planning.
2) MTPS Installation

Recommendation(s):
1) The RO servers need to be fully functional before the program starts.
2) Determine which software needs to be rolled out and have it done ahead of time.
3) A branch in HQ needs to control the deployment and updating of software to all users at HQ and in the ROs.
4) Toll-free telephone numbers need to be set up before any materials are sent out.
5) Space for paper storage needs to be taken into account for the ROs. Digital storage is also an issue, but many files can be moved to HQ servers.
6) NPC needs sufficient lead time when it comes to planning storage for packing and shipping materials, as well as getting billable stamps. (Relevant to Section 14 as well.)
7) The LUCA PCS needs to be able to receive a data dump from the shipping systems. This will cut down on the questions coming from HQ and RO staff regarding the shipping and receiving of packages. (Relevant to Section 9 as well.)
8) The data capture/keying modules need to better interface with the PCS. (Relevant to Section 9 as well.)
9) The contracts and requirements for the RO geography staff workstations and RO infrastructure need to allow for flexibility. Software requirements may change through the four year LUCA cycle.
10) The scanners need to be set up to be secure for Title 13 documents. The scans should be sent to a server and not sent to the person via email. (Relevant to Section 1.2 as well.)

Activity: 6.10 Conduct Debriefing of HQ/RO/NPC Staff & Capture Lessons Learned

History/Lessons Learned:
1) A debriefing was conducted prior to Feedback, which allowed changes to be made to the New Construction program.
2) The lessons learned need to be finalized and signed in a timely manner.
3) The RO coordinators were encouraged to email each other with best practices.

Recommendation(s):
1) Send NPC/ROs questions about LUCA at the end of each phase and conduct follow-up discussions.
2) It was helpful for HQ staff to see the notes from the RO mid-program debriefing in an unfiltered form.
3) The best practices experienced by each RO should be shared when issues arise.
4) There should be a searchable ops log/best practices document so that it is easier to locate relevant information.

Activity: 6.11 NPC/RO Handbook

History/Lessons Learned:
1) The NPC/RO Handbook is a collection of all the LUCA-related memos, procedures, letters, and reports that is meant to be everything needed to run the program without having to go looking for a document.
2) The 2010 NPC/RO Handbook has not been finalized yet.
3) The handbook is very large and difficult to distribute.

Recommendation(s):
1) It is recommended that the NPC/RO Handbook not be produced for 2020 LUCA due to the difficulty in organizing, updating, and distributing the handbook.
2) The individual documents are sufficient and just need to be better organized and indexed.

Activity: 7.1 LUCAGPP Module (Requirements, Development, Documentation)

History/Lessons Learned:
1) Knowledge of SQL needed to request meaningful automated reports and create custom reports using Oracle Discoverer.
2) Automated reports are preferred.
3) Avoid overly long field names in the database and the reports.
4) The GPP was not programmed to include a module for missing initial Title 13 materials (RCC).
5) The GPP's triggers for GEO and NPC production systems were not able to be tested because the PCS was not ready.

Recommendation(s):
1) For the automated reports, clearly defined fields and definitions are required. A data dictionary, as well as a document explaining the table structures, needs to be developed by the beginning of the program and made available to all stakeholders.
2) The GPP needs to track links between participants and jurisdictions because one participant can represent multiple jurisdictions.
3) GPP should store the specific blocks that were included on the participant's materials so the list can be referenced by staff when contacting participants. Structure the LUCA PCS in a similar fashion to the CQR PCS, where the actual dataset sent to the GU is available via the PCS.
4) Program the GPP with the ability to generate ad hoc reports. Reports by geography (i.e., state, county, AIAs, boroughs, etc.) will allow better production queuing and more efficient follow up with participating governments.
5) Information regarding missing Title 13 material should be entered into the LUCA PCS and then automatically populated into GPP. Design the LUCA systems so that the policy office systems can be automatically populated from them.
6) If one field triggers values in another field within the GPP or an action within the PCS, this is a "dependent field." Dependent fields in the GPP should trigger confirmation pop-ups before a GU is submitted into production. The use of dependent fields should be minimized and users should be alerted on the page itself as to which fields are classified as dependent.
7) Any changes made in the GPP should override earlier data submissions (cycles) for that GU. Materials should only be produced according to the last entry. This will stop materials for the GU being produced multiple times.
8) The cycles for each GU should be tracked in the GPP.
9) Detailed procedures for using the GPP module should be included in the NPC/RO procedures.
10) Utilize Joint Application Design (JAD) sessions when developing GPP modules.
11) Design the GPP to accommodate change in GU functional status (name or legal status change) during the course of the program.
12) Enforce rules and legal values within GPP to cut down on data entry errors.

Activity: 7.2 Updating GPP

History/Lessons Learned:
1) Difficult to find staff in some ROs, given the exact timing of LUCA registration, to complete updating of addresses manually.
2) Providing cut-off dates in advance for entering data helped streamline the process.
3) The requirements (both system specifications and policy) for specific fields changed at different points in the program.
4) Since the fields available to record data changed over time, data frequently had to be moved from one field to another.
5) Having GPP data fields automatically kick off production created problems when data was erroneously entered or when governments requested changes.
6) Procedures for handling 2010 Census Local Update of Census Addresses (LUCA) Contact Information Update Forms from Council of Governments (COG), Metropolitan Planning Organizations (MPO), and Regional Planning Associations (RPA).
7) State Data Centers (SDCs) reviewed the contact database information in the GPP.
8) Deadline for entering LUCA Registrations in the GPP. Continue to enter registrations into the GPP on a flow basis so the GEO can continue to produce and NPC can ship materials, allowing GUs as much time to work with their materials as possible before their submission deadlines.
9) GEO locked down the 2010 LUCA module of the GPP so that the regions could not enter new registrations, media changes, or options changes. GEO grayed out the fields necessary for entering new registrations, option changes, and media changes. If RO geography staff members needed to register a participant or request either option or media changes after January 15, 2008, they submitted the request through the Problem Referral System.
10) In order to allow headquarters staff to track patterns in conversations between both Help Desk and Regional Census Center (RCC) staff and GUs in similar ways, a coding system was used to document all of these calls in the comments section of the GPP.
11) All LUCA Title 13 losses were recorded using the new "Final Closeout of LUCA" section in the 2010 LUCA module of the GPP.
12) "Return or Destruction of Title 13, U.S.C. Materials" form (D-1674) information was entered into the LUCA GPP. The number of fields grew because of the number of times a GU could return the form.

Recommendation(s):
1) Allow GUs to update their contact information on a public website. The updates should then be loaded into the GPP.
2) Conduct research and discuss with the policy office how LUCA can utilize the current methods of sending official correspondence/notifications to GUs and how we can accept electronic signatures.
3) The Problem Referral System should connect to the PCS so that a referral can be created from the information entered into the PCS and resolving a referral can update the PCS.
4) The final set of fields used to capture the information from the Return or Destruction forms should be utilized again.
5) Look into a way of linking the Integrated Partner Contact Database (IPCD), owned by the Communications Directorate, to the GPP so that when relevant data is updated in the IPCD, GPP users are alerted to those changes and can review them to see if the GPP should be updated as well.

Activity: 7.3 Mailing Extracts from GPP

History/Lessons Learned:
1) Circulating to the ROs the logic to be used to generate the mailing universe and then circulating the draft mailing universe before generating the letters allowed for GPP, PCS, and mailing universe cleanup. This increased the accuracy of the mailings.
2) RCC staff was responsible for updating the GPP during the final closeout phase of LUCA. GEO and the RCCs used the updated GPP to determine which GUs needed to be closed out and to record each attempt to contact a GU‟s LUCA liaison and HEO. NPC, HQ, and the RCCs used the GPP to plan final closeout mailings and/or follow-up telephone calls.
3) If regional staff needed to correct any GPP database grayed out fields, all additional information was added to a referral describing those changes. Staff explicitly stated the GPP field name or names that needed to be changed and listed the correct data for all the updated fields.
4) GEO used the updated GPP to estimate the workload, plan NPC's production and shipping of the first mailing, and review the universe for the final closeout phase of LUCA.
5) The process for removing GUs from the extract because they returned their registration worked well.

Recommendation(s):
1) Budget enough time for GPP cleanup before each extract is created.
2) Design a process for removing GUs from the extract if their status changes before the actual mailing.
3) Post all extracts for review by key stakeholders on a system accessible by everyone.
4) Design simpler methods for creating mailing lists and custom mailings.

Activity: 8.1 Problem Referral System

History/Lessons Learned:
1) The creation of new referral codes occurred in a timely fashion as problems arose. Some referral codes from 2000 were reused and some were retired.
2) Title 13 information cannot be stored in the PRS, leaving the referrals incomplete.
3) Information must be transferred manually into and out of the PRS, which can make creating and resolving referrals time consuming.
4) Cross-referencing problem referrals in an automated way cannot be currently be done so that multiple referrals on the same topic, perhaps multiple production problems for the same set of materials, can be reviewed and resolved in a streamlined fashion. Cross-references based on geography or specific program participant ID would be helpful.

Recommendation(s):
1) A connection between the LUCA PCS and the PRS should be established. This would allow the transfer of data between the two systems and reduce the need for manually transferring information into the PRS from the PCS.
2) LUCA should have a module within the PRS that is similar to the CQR module, which is separate and allows Title 13 data. The CQR module generates a generic email that does not contain Title 13 data.
3) The LUCA team should look into having a customized module in Remedy system for handling referrals.
4) The referral system should have the capability to organize referrals by geography, participant ID, and other characteristics related to the referral.

Activity: 9.1 LUCA PCS (Initial Review & Feedback)

History/Lessons Learned:
1) During processing, sometimes a GU's participation option needed to be changed in the PCS in order to process the submission. The PCS did not allow these option changes to be tracked in a reportable way.
2) Consider integrating long-term data storage into the PCS (e.g., allow users to upload files for archiving).
3) Develop a better way to search for participants by GU type. The user had to reenter the entity code going from section to section.
4) Keep in mind the kind of information stakeholders would like to see for assessments and evaluations when developing the PCS. For example, the number of block challenges that were received but were not processed because the GU also submitted address updates for the same block was not able to be tracked in the 2010 LUCA PCS.

Recommendation(s):
1) The PCS should display a pop-up window when the user submits data listing the fields they updated to ensure that no data are accidently lost.
2) The PCS needs to have the capability to produce reports sufficient for all stakeholders' needs.
3) GEO's benchmarking system should interface with the PCS so that the benchmarking status of an entity is displayed in the PCS. In addition, the upcoming entities scheduled to go through the benchmarking process should be displayed in the PCS so that staff can prioritize those entities for production. If an entity is needed for another project, then that should also be noted in the PCS.
4) Develop a way to track production cycles and option changes in the PCS.
5) Develop a way for users to upload files to the PCS and store the files long term.
6) Develop more robust search capabilities that allow users to search by GU type and name. This would help eliminate the need to enter the entity code every time the user moves to another section of the PCS.
7) Tribal entities should be associated with each of the states they are located in so reporting, searching, and data entry are easier.
8) Consider assessment and data analysis needs when developing the requirements for the PCS.
9) The Feedback PCS needs its own URL instead of determining access by how the user logs in.
10) The Feedback PCS needs the ability to track Title 13 issues.
11) The Feedback PCS should connect with the Appeals Office system so data can be exchanged.
12) Utilize JAD sessions when developing the PCS.
13) Enforce rules and legal values during data entry to cut down on errors.
14) Need a way in the PCS to accommodate entities that have a change to their functional status (name or legal status change).

Activity: 9.2 LUCA Mapping System (Initial Review & Feedback)
History/Lessons Learned:
1) The mapping system was available on time and was properly integrated.
2) A different project code was selected when working on Feedback maps.
3) Second versions of maps were needed because the scale of the original maps was not sufficient to make updates. (More relevant for section 13.)

Recommendation(s):
1) The regional staff needs access to the mapping system.

Activity: 9.3 Entity Based Initial Review Map Interactive QC System

History/Lessons Learned:

1) System was used to QC the map PDFs. It was helpful for catching "hairballs" on maps.
2) Referrals for problems discovered during the QC were entered in the PRS originally, but the Remedy system was eventually used because of the high volume of referrals.

Recommendation(s):

1) Look into connecting the QC system with the PRS or Remedy system.

Activity: 10.1 Participant PC-Based Software

History/Lessons Learned:
1) The MTPS could not handle the data for a large GU (state level, large city, etc.)

Recommendation(s):
1) Make sure there is a plan in place before the start of the initial phase to test and release the updated versions of the software.
2) For state-level participants, the software should enable the participants to work county by county and toggle between counties.
3) For all entities, the software should provide the option for participants to work at the tract level.
4) For county-level participants, the software should allow multiple users to update the data (e.g., split the data by GU or tract).
5) The fringe areas should not include entire counties, only a mile-wide buffer.
6) The latest technology should be utilized for this software, as well as what the GSS-I develops over the next few years. A web-based system should be developed that allows participants to log in to a Census Bureau system to complete their submission.

Activity: 11.1 Advance Notice Letter

History/Lessons Learned:
1) GEO and NPC individually prepared the LUCA letter signed by the Census Bureau Director with the HEO or contact's name and address.
2) For undelivered letters, staff did not need to produce a new letter with updated names and addresses. They could have inserted a note in the repackaged materials notifying the GU that their contact information may be incorrect in the letter.
3) The mailing may have been sent either too early or to the wrong people, but it did not make a significant impact (even based on a survey of SDCs in 2007).
4) RO staff provided additional information, including Census 2000 data, essential to helping governments decide whether to participate.
5) Council of Governments/RPA letters arrived late.
6) Many letters did not arrive far enough in advance of the first workshops.
7) Some letter recipients wanted to submit an address list immediately after receiving the promotional and invitation material.

Recommendation(s):
1) The letterhead and the envelope should use the same return address. Make sure the address used on all documents is one prepared to accept any type of LUCA mailing (do not use the Department of Commerce address or the Census Bureau Director's letterhead).
2) The letter should be concise and kept to one-page.
3) Use different color paper for the primary letter and the letter for the cc's. This will help with the shipping by ensuring that the correct letter is mailed to the correct person.
4) A postcard could be sent with a link to a website that the GU could access to learn about the LUCA program. The postcard could also contain a toll-free telephone number for the GU to call to request promotional materials if they prefer not to use the internet.
5) The advance notice letter needs to be sent out early enough to allow GUs to prepare their budget and staff for the work.
6) The letter should not contain a firm schedule for the deployment of LUCA products and other activities that may change after the letter is sent out.
7) Send out more than one advanced mailing in order to build excitement and participation.
8) Utilize personal contacts from RO and SDC staff to encourage participation, which is usually more effective than mailings.

Activity: 11.2 Feedback & Appeals Advance Mailing Package

History/Lessons Learned:
1) Comments on the flyer were needed quickly because GEO needed to get bids on the production of the flyer.
2) The flyer did not include any telephone numbers, either for the Appeals Staff, the ROs, or the Help Desk.
3) The feedback and appeals advanced mailing package was shipped out on time for 2010 LUCA.
4) The advance mailing materials were posted on the LUCA website for the GUs to review.

Recommendation(s):
1) The advanced mailing should contain an explanation for how the same address submitted by multiple GUs can get different feedback codes.
2) Continue posting the advanced materials on the LUCA website.
3) Design the mailing to encourage more contact updates for LUCA Liaisons.
4) Include more information on Title 13 security requirements (such as the need for a liaison for the life of the program and the closeout process).
5) Create a streamlined process for designating a liaison late in the program.

Activity: 11.3 Contact Update Form

History/Lessons Learned:
1) ROs updated GPP with information on contact form.
2) Some GUs were confused upon receiving multiple copies (one sent to the HEO and others sent to other geographic program contacts).

Recommendation(s):
1) Look into making the contact form available online for GUs to fill out electronically.
2) Regional staff would still be responsible for making the GPP updates if paper forms were returned for 2020 LUCA. Paper forms would need to be scanned so they could be accessible through VDI.
3) Redesign the forms to more clearly indicate the types of communication the contacts will receive from the Census Bureau.
4) List multiple geographic programs on a single form so potential contacts can understand the types of communication they will and will not receive.
5) Implement a more regular, organized GPP updating process.
6) Include the SDCs in the contact updating process – they would like to know who our local contacts are.
7) Continue to allow updating of contact information for individuals not currently involved in Census Bureau programs.

Activity: 11.4 Advanced Promotional Booklets/Brochures (Initial Review)

History/Lessons Learned:
1) A LUCA-specific brochure was developed in-house in 2006 and given to liaisons and partners at conferences, as well being included in the advance mailing. The LUCA booklet was developed later once details of the program were finalized.

Recommendation(s):
1) Continue to include the brochure with the advance mailing as well making it available online.
2) Produce the brochure earlier so it is available for conferences and so it can be part of the promotional materials.

Activity: 12.1 Invitation Letter

History/Lessons Learned:
1) The Spanish translations for the invitation letter were late.
2) Originally, the complete address did not show in the envelope window when NPC started the mailout of the invitation letter. The font of the address was changed and the location of the address was bumped up in order for it to be displayed in the envelope window.
3) ROs created and sent invitation packages to new incorporations and GUs whose contact information changed since the May 15th GPP extract (up to RO discretion).
4) RO staff called invited GUs to follow up on the LUCA invitation packages. A number of SDCs requested to assist with the telephone follow up to encourage participation and alert GUs of deadlines.
5) In regards to the ROs receiving responses to the invitation letters, there were some staffing issues in the ROs because staff was not brought on board early enough.
6) The ROs received multiple responses from the same GU, which had to be reconciled.
7) A system had to be created for informing the SDCs of which GUs required follow-up.

Recommendation(s):
1) The Spanish translation is done as soon as the English version of the letter is approved by the Director. Therefore, the English letter needs to be submitted to the Director as early as possible.
2) HQ should look at examples of all the possible envelopes to use for the Mailout and then decide which envelopes to use.
3) Email the invitations as much as possible.
4) Create a better method for including SDCs in the invitation follow-up process.

Activity: 12.2 Registration Form

History/Lessons Learned:
1) Participants selected their option, media type, and designated liaison on the registration form.

Recommendation(s):
1) The registration form should contain language reminding the participants that if their HEO or LUCA liaison changes, they should contact us as soon as possible with the name of the new person.
2) Encourage GUs to register online (assuming electronic signatures are able to be accepted).
3) The registration form should include milestones that show the GUs how much time they would have for the initial review depending on which date they registered by. The milestone dates should only be included on the invitation letter if the dates are set with a high-degree of confidence.

Activity: 12.3 Confidentiality Form

History/Lessons Learned:
1) RO/RCC staff had to follow up with most GUs regarding multiple incorrectly completed forms.
2) The Confidentiality form changed:
From:
   In addition, those who sign the agreement indicate that they understand the penalty for disclosing information about addresses or individuals obtained by the Census Bureau, including maps that contain structure points showing the location of housing units or group quarters is a fine of not more than $250,000 or imprisonment for not more than 5 years, or both.
To:
   In addition, those who sign the agreement swear under penalty of perjury to maintain the confidentiality of information about addresses or individuals obtained by the Census Bureau, including maps that contain structure points showing the location of housing units or group quarters, and that the penalty for wrongful disclosure is a fine of not more than $250,000 or imprisonment for not more than 5 years, or both.

Recommendation(s):
1) Redesign the form so that the Sign-In/Sign-Out section is clearer for the GUs to understand that everyone that viewed the materials has to sign-out at the end of the program.
2) Clarify what is required for confidentiality.
3) Make the form available online.

Activity: 12.4 Title 13 Security Guidelines & Self-Assessment Form

History/Lessons Learned:
1) There were two different self-assessment forms, one for paper materials and one for electronic materials.
2) RO/RCC staff were not able to answer GUs' questions regarding information technology and Title 13 security requirements when asked.

Recommendation(s):
1) The security guidelines need to contain instructions for the GU on how to handle security breaches and lost materials.
2) Post the self-assessment form online for reference.
3) Have more detailed information available about information technology aspects of Title 13 Security Guidelines before sending promotional materials to GUs.

Activity: 12.5 Final Program Reminder Postcard

History/Lessons Learned:
1) Two postcards were sent to remind GUs to register.
2) UAAs were sent to NPC, but they were not returned to ROs/HQ in time

Recommendation(s):
1) There needs to be better clarification in the procedures on what HQ wants done with UAAs.
2) There needs to be flexibility during the mailouts so that the vintage of the address extract does not impact the deliveries.

Activity: 12.6 Registration Deadlines

History/Lessons Learned:
1) January 15, 2008 was the deadline to register for all GUs.
2) Only 40 GUs did not get the full 120 days for submitting their materials. No GUs were denied registration.

Recommendation(s):
1) The LUCA website should provide the ability for GUs to access their materials as soon as they register.
2) If the GU has boundary updates, then they need to register by a certain date in order to get the full length of time for their submission.
3) The LUCA team needs to be aware of key dates for data processing and data product creation, as well as other programs and their impacts, before determining the date for registration cutoff.
4) It should be determined ahead of time if there is room for accepting late responses.

Activity: 13.1 Address Products (All Phases)

History/Lessons Learned:
1) The pipe delimited files were confusing for the participants and difficult to process.
2) There were too many codes for Feedback.

Recommendation(s):
1) If an address is submitted by multiple entities, it should receive the same feedback code in the address product regardless of which GU submitted it.
2) The naming conventions for the address products should be simplified.
3) Address Count Lists were not used consistently and should not be produced anymore.
4) Address products need improved sort capabilities.
5) For Initial Review address products, the GUs need the capability to say that they agree with the addresses as they are and submit that. That would make them eligible for Feedback and Appeals and would not require follow-up to see why they did not submit anything after signing up for the program.
6) The schedule for the generation of materials has to consider if a file for the entity has been received for GSS-I and if that needs to be processed before LUCA materials are produced.

Activity: 13.2 Maps and Shapefiles (All Phases)

History/Lessons Learned:
1) There was not a large enough buffer zone on the 2010 LUCA maps, making it difficult for the GUs to make updates near the entity's boundaries.
2) The 2010 LUCA paper maps were zoomed in too close on the boundaries making it difficult for the GUs to make updates near the boundaries.
3) There was a threshold based on the number of addresses used to determine whether a GU could receive paper maps. Entities above the threshold could not receive paper maps because there would be too many to produce and ship.

Recommendation(s):
1) PDF maps, which were used for 2010 New Construction, should be utilized for 2020 LUCA, especially as an alternative for GUs that request paper materials.
2) Continue using the threshold based on the number of addresses to determine whether a GU can receive paper maps or not.
3) GUs should still be able to make special requests for map products.
4) See Activity Review Sheet 1.7 for recommendations regarding map spots on LUCA products.
5) See Activity Review Sheet 10.1 for recommendations regarding a PC-based mapping software that can be used by participants.

Activity: 13.3 Participant User Guides (All Phases)

History/Lessons Learned:
1) There were 24 user guides created for LUCA 2010 Initial Review due to the different options and media types that the participants could select. There was also separate user guide developed for tribal entities and a Spanish version for Puerto Rico.
2) There various user guides were helpful for the participants because they could use the user guide that was tailored to their option/media, but it was difficult for HQ staff to develop the user guides and it was sometimes confusing for RO staff to follow along with a participant when they called with questions.

Recommendation(s):
1) If the number of options and media types is reduced for 2020 LUCA, the number of user guides needed will automatically reduce. Another way to reduce the need for additional user guides is to combine some of the variations together. For example, the procedures for the tribal entities can be added to the standard user guide for the nontribal entities. The user guides should also be concise as possible, and not include information irrelevant to the procedures.
2) The short, quick start guide for the Feedback and Appeals process was well received and appreciated.

Activity: 13.4 Partnership Data Creation and Transfer System

History/Lessons Learned:
1) This system was not used for 2010 LUCA, but it was used for other 2010 geographic programs such as Statistical Areas and Redistricting.

Recommendation(s):
1) Research the possibility of utilizing this system for 2020 LUCA, possibly in conjunction with online submissions.

Activity: 13.5 Return/Destruction Forms

History/Lessons Learned:
1) "Return or Destruction of Title 13, U.S.C. Materials" form (D-1674) information was entered into the LUCA GPP by the ROs.
2) GEO used the updated GPP to estimate the number of remaining GUs the Census Bureau needed to contact to obtain D-1674 forms.
3) Some GUs were not comfortable signing Return/Destruction form because they lost materials or never received them. The Return/Destruction form did not account for situation when materials were lost by FedEx or the participant.

Recommendation(s):
1) Upper management/legal/policy should decide on the contents of the form at the beginning of the program; alterations should not be made in the middle of the program.
2) Make the form available online (assuming electronic signatures are allowed for 2020).
3) Do not have GU fill out R/D form until they are officially being closed out of the program. If the GU is eligible for Feedback and Appeals, then they should not submit a R/D form after Initial Review, only after they have not submitted an appeal or the appeal has been processed.
4) Form should accommodate the situation where the GU never received or lost the materials.
5) The names of liaisons and reviewers for which a "Sign Out" signature is required should be preprinted on the form.

Activity: 13.6 Dropout/Acknowledgement/Preliminary Feedback Letters

History/Lessons Learned:
1) The D-1721 Dropout Letter was used in situations where a GU decided to drop out of LUCA but did not send a letter from the HEO or LUCA liaison. The dropout letter was mailed to those GUs that registered for the LUCA Program and received LUCA materials but subsequently informed the RO that they do not wish to continue the LUCA review process. A dropout differs from a closeout in that a GU that dropped out informed the RO staff that they no longer wished to participate in LUCA while a closeout refers to a GU that submitted their materials and informed the RCC that there were no changes and that they finished their review of the LUCA materials.
2) The Acknowledgement Letter was mailed to those GUs that submitted LUCA changes. There were two versions of this letter – the D-1722 short version and the D-1723 detailed version. The short version informed the GU that we received their LUCA changes, the updates were processed and that they would receive a letter providing preliminary feedback regarding their submissions. The detailed Acknowledgement Letter gave the RO the option of itemizing specific LUCA related materials received from the GU.
3) The Preliminary Feedback Letter was mailed after the ROs reviewed the submitted LUCA materials, contacted the GU to address any issues or concerns and made any necessary corrections. There were two versions of the Preliminary Feedback Letter - the D-1724 and the D-1725. The D-1724 included an itemized list of LUCA related materials the RO received from the GU in addition to providing feedback, while the D-1725 provided preliminary feedback only. The D-1724 was used in conjunction with the short version of the acknowledgement letter as the D-1722 did not provide notice to GUs regarding specific LUCA submissions the RO had received. The D-1725 was used in conjunction with the detailed acknowledgement letter as the D-1723 itself provided notice of specific LUCA submission materials RO staff had received from the GU.
4) The ROs customized the Preliminary Feedback Letter in an inconsistent manner.

Recommendation(s):
1) Make sure letters are completed and shipped on time without any lag. Build in extra time for approval and review of letters.
2) See Activity Review Sheet 13.1 regarding address products and allowing GUs to receive feedback without submitting updates. These GUs would need a unique letter since they did not return any materials.

Activity: 14.1 LUCA Options for Participation

History/Lessons Learned:
1) **2010 LUCA Registered participants by Option:**
   Option 1 - 9,110 (79.2%)
   Option 2 - 1,530 (13.3%)
   Option 3 - 860   (7.5%)

   Usable Address lists submitted and processed:
   Option 1 - 6,231 (82.9%)
   Option 2 - 922   (12.3%)
   Option 3 - 361   (4.8%)

   Addresses received:
   Option 1 - 12,418,753 (29.7%)
   Option 2 - 24,200,599 (57.8%)
   Option 3 - 5,227,825   (12.5%)

   New Adds to The MAF:
   Option 1 - 4,136,066 (44.4%)
   Option 2 - 4,129,906 (44.3%)
   Option 3 - 1,048,997 (11.2%)

   Enumerated or Vacant LUCA Addresses (where LUCA was the initial source):
   Option 1 - 1,519,336 (50.3%)
   Option 2 - 1,202,978 (39.8%)
   Option 3 - 295,495 (9.7%)

   Looking at the "New adds" totals vs the new adds found (enumerated or vacant), it looks like Option 1 had the highest rate of success:
   Option 1 - 36.7% of new adds to the MAF were found
   Option 2 - 29.1% of new adds to the MAF were found

   Option 3 - 28.1% of new adds to the MAF were found
2) Too many options and media types (e.g., Options 2 and 3 were too similar, only difference was Title 13). Possible options: 1. Simplify the program (less options). 2. Keep the program and options the way they are so that participants know what to expect (be consistent). 3. Explore other participation options. For example, create an Option 1 and 2 hybrid, so that there are only 2 overall options - a title 13 and non-title 13 option. Title 13 option would allow participants to edit our address list and add any addresses they wish to without MAFIDs that we would later try to match.
3) It was difficult to explain the benefits of each option to the GUs and some GUs had a hard time choosing which option to select. Some GUs returned submissions that were for a different option than the one they selected during registration.
4) The more options there are, the more complications there are for the user guides, Title 13 security regulations, and training.
5) Options 2 and 3 tended to add duplicates address records to the MTdb because the GUs gave us all their addresses and sometimes there were no matches made against the existing MTdb records.

6) Option 2 people just gave their address list, but did not review ours.

Recommendation(s):
1) This is one of the major topics for the focus groups. We need to learn if GUs who participate in GSS-I will find an Option 1-only LUCA program sufficient or would they prefer Option 3. The LUCA team could run the initial ideas for 2020 LUCA by such organizations as the National Association of Towns & Townships and the U.S. Conference of Mayors to get their feedback on how best to conduct the focus groups with the GUs.
2) A small-scale survey of 2010 LUCA Option 2 participants could be conducted to see if Option 1 would work for them in 2020.
3) Have the SDCs serve as consultants for the GUs and advise them on the best option for their participation.
4) There is enough data to form a case for eliminating Option 2. If option 2 is eliminated, how much money would it save?
5) Create a procedure or software tool that would allow us to reject address lists submitted by Option 2 participants that included too many duplicates of our current address list.

Activity: 14.2 Local Officials Conduct LUCA Review and Return Submissions to RO

History/Lessons Learned:
1) 2010 LUCA allowed LUCA a 120-day review period assuming that they registered for LUCA by November 19, they were in the GPP database by COB November 26, and that we mailed them their LUCA materials by December 4, 2007. Census Bureau decennial management decided to maintain the 120-day review period for participants who met the following conditions, regardless of whether NPC sent their materials by December 4, 2007. Some GUs did not receive their materials until May 2008. Forty-one GUs did not receive their materials far enough before May 2008 to allow them a full, 120-day review period.
2) If a participant requested an extension due to an extreme situation such as a tornado, fire in city hall, or flood, the RCC requested an extension for the participant from headquarters.
3) According to the participant survey, the amount of time needed for review varied by the number of addresses to review and the type of media that was used. For governments with 6,000 or less addresses, 90 days was adequate, for governments with 6,000 to 1,000,000 addresses, the entire 120 days were needed to complete their review, and for governments with more than 1,000,000 addresses, 150 days would have been sufficient review time.
4) Although 17.6 percent of the participants that used the electronic address list and shapefile combination responded that more than 120 days were needed for their review, on average, over 44.0 percent found the 120-day review time adequate no matter the media type used. A higher percentage of participants using the paper address list/paper map combination needed less than 60 days to complete their review.
5) Many of the complaints regarding the timing of review period dealt with the delays in the Census Bureau shipping the materials.
6) About 0.4% of submissions could not be processed. These submissions were rejected by the ROs and not passed on to HQ.
7) 1239 digital update files were submitted during 2010 LUCA. 37 submissions were totally rejected. For 2010 GUs were given the option to submit spatial changes by updating paper maps, by updating a shapefile using the MTPS, or by updating a shapefile using their own GIS software.
8) GUs submitted feature realignments that could not be processed; GUs did not always provide information on how their file was created.
9) A problem discovered when reviewing submissions was incorrect use of action codes. Action codes are codes to indicate which change the submitted feature is undergoing. The legal change codes were AL for add line, DL for delete line, SL for split line, and CA for changed attribute. Sometimes the GU would associate the wrong code to the feature. For example, there were files where the GU wanted to change the name of a preexisting road and rather than use the CA code, they used the AL code instead. Since these files were loaded into the MTdb via a batch process that read the change codes, it was important to use the correct code to make the correct change. There was scrub software used in GEO to clean up some of the incorrect line splits.

Recommendation(s):
1) A better system for managing deadlines is needed, as well as a plan for handling submissions that arrive after their deadline. All LUCA communications should reiterate that there is no guarantee that submissions will be processed if they arrive late.
2) If submissions from large GUs arrive late, perhaps only one is selected for processing.
3) A more standard address format (i.e., Excel, Access) is needed.
4) Consider doing a staggered release of LUCA materials. Those entities covered by Address Canvassing receive their materials early; those entities not in Address Canvassing receive their materials later.

5) Returning submissions:
   - Establish a secure web interchange for the GUs to upload files to the Census Bureau.
   - Look into the possibility of GUs doing their work online, possibly through a VDI-like environment.
   - Create a central hub for file submission that can handle all transfers and file versioning.
6) Participants should continue to be reminded that if they are adding address for a new street there should a corresponding feature update; the same goes for deletes. In order to maintain consistency between MAF and TIGER, as part of processing, there should be check for correlations between address and feature updates.
7) When the participant returns paper maps they should only return the updated maps or at least indicate which ones have updates (like BAS).
8) During package assembly, require NPC to data capture the return tracking numbers that were given to the participants. Print an insert informing participants to keep track of any return tracking information.
9) Consider allowing GUs to submit their addresses to GEO's geocoding service and then having them review the results. This will allow the Census Bureau to choose the geography level for geocoding and prevent geocoding mistakes by the GUs.

Activity: 14.3 ROs Process Participant Submissions

History/Lessons Learned:

1) GEO returned to the regions shapefiles that needed interactive digitizing and posted the entities' shapefiles to a server that allowed the ROs to open the file in GATRES. The ROs needed to flag the files as requiring interactive digitizing in the "Process Returns" module of the LUCA PCS. GEO moved these files to the server accessible from GATRES within five business days of the ROs' submission of the flagged files to GEO; however, ROs did not need to wait for files to be available in that directory before beginning interactive digitizing.

2) ROs sent all shapefiles and MTPS submissions with boundary and/or feature updates to GEO; all shapefiles with only feature updates to GEO; all paper address lists to NPC for keying; all paper maps to NPC for scanning and digitizing.

3) Due to the late release of the PURS software, formal training was conducted for the ROs via videoconference.

4) After discovering errors in the first files uploaded via PURS, the RCC staff had to post files to PURS and transfer files to HQ using the SAMBA sharedrives. The GEO then performed an automated difference check between the two files. RO staff needed to respond to each referral regarding a discrepancy between the file uploaded through the PURS and the file posted on the RO Linux server. This process revealed that several incorrect files were accidentally uploaded via one of the two routes.

5) More QC checks needed.

6) GEO ran comparisons between the file uploaded through the PURS and the file posted on the RO Linux server and checked for discrepancies.

Recommendation(s):

1) Look into possibility of ROs submitting GU submissions through matching and geocoding service prior to posting submission to HQ.

2) More thought has to be put into how we can accept feature updates from participants who use paper without printing maps.

3) Create a central hub for file submission that can handle all transfers to HQ.

4) Version management and file storage need to be part of any file control system used for LUCA.

5) Expand the number and type of QC checks used on the submissions.

6) Feature updates:

- Equip the ROs to do a more thorough review of file submissions and troubleshoot obvious problems before they get to HQ and have the RO resolve issues directly with the GU. Problems that could be resolved at the RO level include files that cannot be opened, are improperly projected, and have obvious and significant realignments. If ROs could review files for these errors before the files reached HQ, GUs would be able to make the changes and resubmit earlier.

- The development of a QA checklist with the steps and scenarios outlined would complement the procedures. A checklist did exist for LUCA 2010; however, it changed as new steps were discovered. A flowchart the reviewer could follow for various review scenarios would also be helpful.

- Headquarters needs to be more strict and standardized in their accepting or rejecting submissions.
    - The PCS should be more complete in outlining where files are in the submission and review process by expanding the digital submission tracking fields, and make the fields autopopulate for those functions that are automatic.

7) Need a field in the PCS to track the usability of submissions (usable, usable with fixes, or not usable).

8) The ROs need to disseminate their best practices as early as possible so that everyone is aware of what they did and allow others to benefit. In order to facilitate this, HQ staff should be prepared to help turn the documentation used by one RO into something that other ROs can use.

Activity: 14.4 MTdb Processing Requirements

History/Lessons Learned:
 1) TLGPB had to write the CRD for LUCA MTdb Processing.

 Recommendation(s):
1) The requirements for MTdb processing need to include the linking of addresses so that for Feedback purposes, we know which MTdb record was kept when the LUCA address representing the same housing unit was deleted during address canvassing.
2) The requirements for MTdb processing need to include the tracking of addresses submitted multiple times by different GUs so that we can better explain the results in the Feedback materials.
3) Possibilities for matching parameters: Within block search, within 3-digit ZIP code with a distance limit.
4) Geocoding requirements need to set the rules for using coordinates submitted by the GUs.
5) Consider including in the MTdb processing requirements how the linking of city-style and noncity-style addresses (especially location descriptions) could be performed using GU-submitted maps spots. This could occur by having any GU-submitted map spot that is within a certain distance threshold of an existing MSP be targeted for office resolution to determine if the maps spot and the MSP represent the same structure/housing unit.
6) Rules need to be established for when to take the GU's geocode and when there needs to be office resolution.
7) Running the submissions through the DataFlux software will be tested with the 2010 LUCA addresses. The DataFlux software has the potential of correcting/updating the ZIP codes prior to the matching process.

Activity: 14.5 Map Digitizing Requirements/Procedures (Digital and Paper)

History/Lessons Learned:
1) The regions digitized all feature and tribal boundary updates provided by the participant, while the NPC digitized all non-tribal boundary updates. Digitizing included necessary quality assurance (QA).
2) 1239 digital update files were submitted by GUs during the LUCA program. The majority of these updates were inserted into the MTdb using the Batch Feature Update System (BFUS) or through interactive update using GATRES. In total, 1038 of the 1239 files were processed through BFUS. 823 of the 1038 files, had all of their updates submitted to BFUS, while 53 of the 1038 files had part of their updates completed interactively using GATRES and part of their updates run through BFUS. 162 of the 1038 files had all of their updates inserted into the MTdb interactively. Of the 201 originally rejected files, 164 submissions had some portion of their updates inserted into the MTdb. These updates were either digitized interactively (21 files) or the usable portion of the file was extracted and submitted to the BFUS process (143 files). Only 37 submissions were totally rejected.
3) When GEO staff rejected a shapefile, they notified the RO staff through a problem referral. RO staff updated the comments section of the problem referral if the LUCA participant did not want to or could not resubmit their feature updates.
4) LUCA digital update files needed to be standardized before review could be done. Two standardization or "scrubbing" programs were created, one for GIS shapefile submissions and one for MTPS submissions. These programs functioned by reviewing the update files in ArcMap and checking if the updated files complied with digital update file specifications and legal values.
5) One aspect that could have been better tracked in the PCS was the review steps that occurred after the submission was received at HQ from the RCCs and before the file was submitted to the BFUS process. The HQ file review process included handoffs of files between the LUCA help desk, the UOB, and the GAB. The results of the reviews conducted by these parties and handoffs were tracked in text files and spreadsheets. Tracking these activities in the PCS would have streamlined this process and would probably have eliminated some confusion.
6) There were cases where different entities submitted overlapping updates for an entity.   This occurred at the state and place level, the county and place level, and the state and county level creating duplicate updates. There were 205 documented overlapping entities. Although files from state and place could overlap, the updates were not necessarily identical. There was no tracking system of this trend and several files that caused duplicate features in the MTDB were submitted through BFUS and had to be interactively cleaned up at a later date.
7) Some GUs attempted to submit both feature realignments and new adds. Census Bureau staff attempted to separate the two update types so the new feature adds could be submitted via BFUS while the realignments were not processed.
8) Due to time constraints, after an entity went through BFUS, not all fallout was reviewed. Add Lines that failed to be inserted (called punts in BFUS), 5% of Add Line passes, and 5% of delete Line passes were reviewed. Review of the Attribute Modifications and Split Lines occurred at the beginning of the process but was dropped when it became clear that all of the BFUS review could not be completed by the production deadline.
9) A problem discovered when reviewing submissions was incorrect use of action codes. Action codes are codes to indicate which change the submitted feature is undergoing. The legal change codes were AL for add line, DL for delete line, SL for split line, and CA for changed attribute. Sometimes the GU would associate the wrong code to the feature. For example, there were files where the GU wanted to change the name of a preexisting road and rather than use the CA code, they used the AL code instead. Since these files were loaded into the MTdb via a batch process that read the change codes, it was important to use the correct code to make the correct change. There was scrub software to clean

up some of the incorrect line splits.

Recommendation(s):
1) ROs could do a cursory review of file submissions and troubleshoot obvious problems before they get to HQ and have the RO resolve issues directly with the GU. Problems which could be resolved at the RCC level include files that cannot be opened, are improperly projected, and have obvious and significant realignments. If RCCs could review files for these errors before the files reached headquarters, GUs would be able to make the changes and resubmit earlier.
2) The development of a QA checklist with all steps and scenarios outlined would complement the procedures. A checklist did exist for LUCA 2010; however, it changed as new steps were discovered. For a complete and clearer checklist, it would be best represented as a flowchart the reviewer could follow for various review scenarios.
3) Headquarters needs to be more strict and standardized in their accepting or rejecting of submissions. Every effort should still be made to enter as many updates from files that are rejected.
4) New features should be processed first and realignments and reshapes should be done as time allows.
5) The PCS should be more complete in outlining where files are in the submission and review process by expanding the digital submission entries.

Activity: 14.6 Block Challenges

History/Lessons Learned:
1) GUs could comment on any individual city-style address on the census address list and/or challenge the count of addresses for an entire census block on the address count list, but could not do both within the same block. However, some participants returned both address actions and block challenges. RO staff manually compared the block challenges to the address actions and removed invalid block challenges from the submitted files.
2) After RCC staff removed invalid block challenges, 100,368 block challenges were processed from 1,028 Option 1 submissions.

Recommendation(s):
1) Block Count lists are a good tool for the GU to use for quality control, but GU should not be able to submit block challenges based on the lists. Include in the initial review package a checklist for the participants on how to best utilize the block count list as a QC tool.
2) Consider not making block count lists part of the initial review package unless requested by the participant.

Activity: 14.7 Paper Address List Submissions

History/Lessons Learned:
1) Some GUs did not choose electronic address list submissions because of the Title 13 security protocols.
2) Some of the paper address lists were returned with different sized pages attached (i.e., add pages were 8 ½ x 11 instead of legal size).
3) Some GUs created their own version of the "Add Page" using Excel in order to allow them to print the information onto the Add Page from their computer.
4) RCC staff typed some Add Pages for GUs when they struggled with formatting their Add Pages or if the submission came in after NPC's keying deadline.
5) GUs did not keep copies of their submissions – in some cases because they were not capable of photocopying pages other than 8 ½ x 11.
6) Address list processing was more complicated because keyed files and electronically submitted files had different formats. PURS required them to be the same format.

Recommendation(s):
1) Format the Add Page and other address list pages to fit on an 8 ½ x 11 page.
2) Design Add Page formats so they can be generated using an Excel or Adobe PDF template (since fewer and fewer GUs will have either typewriters or individuals comfortable with filling out the pages by hand). The GUs should be able to download the Add Page template from the LUCA website or have it sent to them by email.
3) Make sure the keying process outputs a file in the same format as the digital address list submissions.
4) Look into making the paper address lists double-sided.
5) Consider: If MSPs are made available on 2020 LUCA products, but the participant wants all paper materials, then the maps with the MSPs will be made available online while the paper address lists will have the corresponding MSPID for each address so that the GU can match them up. (This ties into Activity Sheet 1.7.)
6) This is a good topic for the LUCA focus groups.

Activity: 14.8 Participants Review Feedback Material and Appeal Results

History/Lessons Learned:
1) In order to plan for later field operations and public relations strategies, HQ staff needed information about the calls and other communications RCC staff received from LUCA participants regarding their concerns about the address list they received for LUCA feedback.
2) The Appeals Office, in consultation with the Census Bureau, decided to extend the appeals deadline for governmental units by 15 calendar days (from 30 to 45 days).
3) There were 45 feedback codes.
4) Different GUs covering the same geography received different feedback codes for some LQs. This caused confusion for everybody.
5) Participants were instructed to contact the Appeals Office for questions regarding address appeals and to mail their appeals directly to the Appeals Office. The Appeals Office did not have the staffing levels it needed at the beginning of the Appeals phase, so sometimes questions were not answered in a timely manner.
6) Those eligible to file appeals included participants that returned address additions and/or corrections to the 2010 Census Address List and/or challenged the count of addresses in one or more census blocks on the Address Count List, or certified to the Census Bureau that the 2010 Census Address List was correct and required no update. Participants that certified to the Census Bureau that the 2010 Census Address List was correct and required no update could appeal only those addresses on the Detailed Feedback Address List identified as deleted by the Address Canvassing Operation.
7) AdCan procedures did not allow a Move to another block, instead it was a Delete/Add. The Detail Feedback showed the delete, but could not show them where the address had been added back in; the add had to be looked up on the Full Address List. As a result, many deletes were appealed, even though the address was correctly found in another block.
8) RCC follow-up calls following the shipment of Feedback materials and the separate password letter successfully made sure GUs got into their materials in a timely fashion.
9) Block corrections were not a part of the appeals process.

Recommendation(s):
1) General comment: LUCA Feedback will provide a window into the results of GSS-I, canvassing, administrative record matching, and/or verification. This information needs to be explained thoroughly to Census Bureau management and staff so that they can properly handle questions from GUs.
2) Design the Appeals database & workflow so they can more easily track (and report to the Census Bureau about) the Title 13 materials received.
3) Design Feedback codes so it is easier for GUs at different levels that have overlapping geographies to understand the relationship between their results.
4) Consider adding an In Census/Not In Census field to the Feedback materials.
5) Create better information flows between the Appeals Office and the public, including the Census Bureau, for transmitting information about deadline extensions.
6) Plan to train the Census Bureau management and relevant staff, including the RO field operation staff, on what LUCA Feedback materials do and do not say/prove.
7) Investigate the possibility of having the GUs provide block corrections for deleted addresses they are appealing.
8) This is a good topic for the LUCA focus groups, especially the feedback codes.

Activity: 14.9 LUCA Appeals Office Reviews, Adjudicates Participant Appeals, Keys Data, and Issues Written Determinations

History/Lessons Learned:
1) The 2010 Census LUCA Appeals Staff was set up by the OMB to administer the appeals process to ensure that Option 1 and Option 2 LUCA participants had a means to dispute the Census Bureau's determinations regarding their updates to the census address lists.
2) Appeals Office tracking of submitted materials did not allow easy tracking of Title 13 materials incorrectly submitted to them.
3) Block corrections were not a part of the appeals process.

Recommendation(s):
1) The Appeals Office could be overseen by OMB but managed by Commerce and/or Census Bureau staff (depending on the LUCA law). First step, Census Bureau staff should put together a plan to present to the Commerce Department that lays out our vision of how the Appeals Office should function.
2) The Appeals Office needs to be operational and properly staffed in time to handle calls from GUs.
3) The decision of where to place the Appeals Office (i.e., HQ, private office space) needs to be made early so the Appeals Office is open on time.
4) How the Appeals Office systems will connect to the Census Bureau systems needs to be worked out so that the daily data deliveries from the Appeals Office and the Census Bureau can start immediately without any problems.
5) Any decisions affecting the deadline for the GUs needs to be communicated to Census Bureau staff prior to notifying the GUs.
6) Investigate the possibility of having the GUs provide block corrections for deleted addresses they are appealing and if the Appeals staff would have to verify the block change.
7) The Feedback PCS should connect with the Appeals Office system so data can be exchanged.

Activity: 14.10 Update MTdb with LUCA Appeals Results

History/Lessons Learned:
1) Appeals results were loaded into a test database (TESTCAN) first so that things could be reviewed and anomalies corrected prior to uploading the results into the MTdb.
2) APMB wrote the update requirements for AUSB.
3) The appeals results were uploaded into the MTdb early enough for the accepted addresses in the Mailout/Mailback areas to make it into the Late Adds mailing, instead of being sent directly to Vacant Delete Check for follow-up.
4) Block corrections were not a part of the appeals process.

Recommendation(s):
1) Continue using the test database prior to officially loading the results into the MTdb.
2) Investigate the possibility of having the GUs provide block corrections for deleted addresses they are appealing and updating the block information in the MTdb. This process may require office verification for each address.

Activity: 15.1 Production Reports

History/Lessons Learned:
1) There were various production reports generated for 201 LUCA, including PCS reports, C&P reports, and custom reports.

Recommendation(s):
1) All stakeholders need to be involved in the design of the production reports from the beginning to ensure the reports have what everyone needs. People could still have the option of creating custom reports from the PCS if the canned reports have too much or not enough information for them.
2) Census management needs one set of numbers that are the official production numbers. There should not be any inconsistencies in the numbers given to management and the numbers used by the other stakeholders.
3) The definitions for the fields in the reports should be consistent across all reports, whether canned or customized.
4) Include the Privacy Office/Title 13 Loss Tracking Policy officers in the stakeholder list for report creation.
5) Consult CLSMO regarding the SDC needs for automated report creation.
6) Include filtering by TEA and GU size for LUCA reports.
7) Research how data from LUCA and other 2020 Census programs can be brought together in the same report.

Activity: 16.1 Exchanging Files Between Census Bureau and GUs

History/Lessons Learned:
1) See Activity Review Sheets from Sections 5 and 14 for discussions on exchanging data or communicating with the GUs electronically.

Recommendation(s):
1) GUs could download their LUCA materials to their computer.
2) GUs could do their updates in a cloud/VDI environment. This would probably work best for smaller GUs; larger GUs would probably want to download the LUCA address list onto their systems to perform automated matching.
3) Returning submissions:
   - Establish a secure web interchange for the GUs to upload files to the Census Bureau.
   - Look into the possibility of GUs doing their work online, possibly through a VDI-like environment.
4) Create a central hub for file submission that can handle all transfers and file versioning.
5) Investigate what method GSS-I is developing to handle files exchanges with its partners.

Activity: 16.2 Exchanging Files Between HQ-ROs-NPC

History/Lessons Learned:
1) The GUs sent paper address lists to the regions, who then them to NPC, who scanned the lists and made them available for keying.

Recommendation(s):
1) Investigate having the necessary scanning equipment in the ROs so that they could scan the paper address lists.
2) Investigate having the data from the paper address lists captured by Optical Character Recognition (OCR) and the data uploaded into the system without keying.

Activity: 17.1 Staffing

History/Lessons Learned:
1) Staffing estimates did not take into account the extra effort that electronic submissions needed.
2) Consider sending trained specialists from regions that may be over staffed, or who receive fewer returns than expected, to other regions who need help for one or two weeks at a time to help process returns.
3) Estimates could factor in how many GUs there are in each region to determine the number of staff for each region. Since we have gone through two LUCA programs now, the estimates could also take into account past LUCA participation rates when determining the staffing needs for each region.
4) Compacting projects sometimes took the RO's staffs attention away from LUCA.

Recommendation(s):
1) Improvements in the flow and timing of LUCA work will allow all stakeholders to better estimate and acquire the staff they need to complete the work.
2) Factor in competing priorities for regional staff during the staffing-up period that occurs at the same time as LUCA registration and promotion.
3) Consider moving works between the regions when some are understaffed. The point of contact for the entities that are worked on by staff from another RO would remain the person who was the point of contact in the original RO.
4) Consider moving staff from other areas within a RO to the Geography staff to assist with the work.
5) Consider using staff from HQ, as well as the SDCs, to handle the training sessions.