

2020 Census Program Management Review

Systems-Related Projects Andrea Brinson, Program Manager

4.102 – Reducing and Improving Person Follow-up Operations

4.101 – Automating Field Activities

4.104 – Workload Management Systems and Adaptive Design

8.109 – *Logistics Management/Field Infrastructure Study**

8.110 – *Virtual Local Census Office (LCO) to LCO Test Bed**

December 14, 2012



WBS 4.102 - Reducing and Improving Person Follow-up (Cont.)

PROJECT OBJECTIVES :

- The team will determine the optimum number of follow-up contacts to non-responders by mode (telephone and in-person).
- The project will investigate tailoring non-response contact and collection approaches by geography and/or demographics and include a review of hard-to-enumerate areas' response patterns in the research.
- During testing there will be an observer assigned to enumerators during the field tests to conduct time and motion or other studies of the enumerator as they perform the tasks in preparation for enumeration, while conducting the enumeration, and while closing out the enumeration so that we can determine how to develop efficiencies within tasks and with the workflow.



WBS 4.102 - Reducing and Improving Person Follow-up (Cont.)

PROJECT OBJECTIVES:

- The team will investigate ways to optimize the enumeration timeline, which will include research on the impact to cost and quality of varying the follow-up response window, the length (number of weeks) of field data collection for enumeration operations, and the overall timeline for all person follow-up operations.
- The team will investigate the number and type of field operations needed for the 2020 Census.
- The project will work with the Research and Methodology Directorate (R & M) to continue research on field staff pay rate methodologies in order to determine the best methodology to produce the optimum pay rates for use in the field for the 2020 Census, based on economic conditions, by geography, so that we can improve on the methods used in the 2010 Census.



WBS 4.102 - Reducing and Improving Person Follow-up (Cont.)

Recent Accomplishments:

- The team developed a list of questions to ask other countries for information on how they conduct their versions of non-response follow-up. Questions such as:
 - How many contacts can an enumerator make to attempt to interview a housing unit?
 - If telephone contacts were allowed were they made by the enumerator, a local office, or a national office?
 - Is any part of your contact strategy different for one part of the country than the other part?
- The team conducted facilitated sessions to identify, develop, and evaluate four to five viable scenarios that will streamline/modify 2020 field operations to further define and research in 2013. Some examples of options are:
 - Make early Non-response follow-up (NRFU) such as college areas, the Vacant Delete Check and the late planned Residual NRFU operation all one NRFU operation. We could start NRFU earlier and end earlier.
 - Look at the Update/Leave and Update Enumerate Operations to see if they can be combined into one operation.

WBS 4.102 - Reducing and Improving Person Follow-up (Cont.)

Recent Accomplishments:

Recent development for the 2013 Census Test :

- The team drafted a proposed **Notice of Visit**, to be left at the door of the housing unit when no contact is made with the following ways to complete the census form:
 - 1 - Call the enumerator
 - 2 - Go online and complete a form on the Internet
 - 3 - Call the automated telephone assistance center.
- The team is creating an observation checklist for the Time and Motion Study. The Time and Motion Study will provide a foundational understanding of how much time is associated with each of the non-response enumerators tasks, and what costs are associated with the completion of enumerator tasks so that the enumerators can be trained on how to manage their workload efficiently.



WBS 4.102 - Reducing and Improving Person Follow-up (Cont.)

Recent Accomplishments:

- We are examining existing and alternative pay rate methodologies with the R & M Directorate.

The pay rate methodology is used to recruit and retain adequate field staff for the decennial census. In order to minimize field costs, it is essential to set field staff pay rates comparable to local prevailing wages that reflect current economic conditions. The goal is to determine the optimum pay rate in each area of the country that will attract enough applicants and retain employees, but will not be higher than necessary to achieve the goal.



WBS 4.102 - Reducing and Improving Person Follow-up (Cont.)

Challenges:

- There has to be a workload management system or process in place to manage field work in time for the 2013 Census Test



4.102 - Reducing and Improving Person Follow-up (Cont.)

Near-term Project Focus Items:

- Activities for the 2013 Census Test:
 - Continue to participate in the development of the NRFU instrument.
 - Continue drafting observation checklists for the Time and Motion Study.
- Complete drafting field operational scenarios to present to the Decennial Leadership in February/March for a go no-go decision on which scenarios to further research in March – September 2013.
- The team will meet with the R & M Directorate to begin next steps regarding research and their recommendations for pay rate methodologies in the 2020 Census.



4.102 - Reducing and Improving Person Follow-up (Cont.)

Near-term Project Focus Items:

- Continue literature review of research subjects such as:
 - Surveying other countries with nonresponse operations similar to ours for information about how they conduct their operations and what are their lessons learned.
 - Identify relevant results from other surveys about procedures for contacting non-responders, fieldwork efficiencies, telephone contacts, internet response, and nonresponse bias.

WBS 4.101 - Automating Field Activities

Recent Accomplishments:

- Enumeration of non-responders using a mobile device:

The first phase of software development was completed in November. End-to-end testing of the current product began in December .

- Address Listing and Mapping using a mobile device:

The second phase of software development was complete in November. End to end testing of the current product began in December .

- Operational Control System:

High level capability requirements for the system were developed. These requirements were delivered to various software development units within the agency for consideration.

WBS 4.101 - Automating Field Activities (Cont.)

Risk Highlights:

- This project has dual goals of enabling the research agenda of other teams through the development of field tools and conducting its own research to find areas where field efficiency can be realized.
- Research questions are being developed by this team in anticipation of software still to be developed. If this software is delayed or cancelled some research questions may not be fully answered.
- The Enumeration and Listing and Mapping software is currently undergoing a security Assessment and Authorization which is a lengthy process. We are currently working with the IT Directorate to optimize this process. If this authority is not granted or is granted later than anticipated field tests requiring this software may be delayed.

WBS 4.101 - Automating Field Activities (Cont.)

Challenges:

- The research and testing objectives in the Listing and Mapping arena may not be met by the Listing and Mapping Application currently under development.
- Development of an Operational Control System has not yet begun. If the Operational Control System development is delayed this may adversely affect tests requiring the management of field staff.



WBS 4.101 - Automating Field Activities (Cont.)

Near-term Project Focus Items:

- Enumeration:

Continue software development with an emphasis on quality control functionality. In particular focus will be on providing quality control features at the time of production interview. For example a GPS check if the enumerator is measured to be too far away from where we believe through past records the unit exists.

- Listing and Mapping:

Continue software development with an emphasis on quality control functionality. We are looking at development of an Alternative design to test during the R & T phase for address list updating.

Continue to investigate and refine alternate business processes such as the Hybrid Listing concept.

- Operational Control System:

Identify a software development team and work collaboratively to reach a shared understanding of the requirements.

WBS 4.101 - Automating Field Activities (Cont.)

Demonstration of the Enumeration Device



WBS 4.104 – Workload Management

Project Description:

- The Workload Management project provides the application and systems development support for the 2020 Research and Testing. This project has dual goals of enabling the research agenda of other teams through the reuse of current systems to support the tests. In addition, it is conducting its own research in order to provide proposed alternative system architectures to support the 2020 Census design.
- Workload management will support all modes of data collection including - paper, internet, telephone (inbound and outbound) as well as field data from the enumeration device.
- Workload Management will identify, test, and refine options that integrate and potentially consolidate the response processing, universe control, cost and progress reporting, re-interview, and data capture as well as the operations control system for the modes into one integrated management architecture.

WBS 4.104 – Workload Management (Cont.)

PROJECT OBJECTIVES:

- The Workload Management team will research alternative architectures to optimize efficiency, consistency, tracking and reporting of workload . Decisions will be based on solid evidence and analysis of trade-offs aimed at achieving the goals of conducting the 2020 Census at a lower cost than the 2010 Census.
- Workload Management is integrating with corporate Adaptive Design efforts to assist with development of adaptive design capabilities and to explore and define its application to 2020 operations.



WBS 4.104 – Workload Management (Cont.)

Recent Accomplishments:

- Workload Management collected Information Technology (IT) applications high level requirements, detail solution requirements, and specifications/user stories from the 2020 R&T Teams. WM conducted several requirements review sessions to evaluate the requirements, identify missing requirements, review traceability, and ensure the research questions required the functionality defined in the R & T teams' requirements.



WBS 4.104 – Workload Management (Cont.)

Recent Accomplishments:

- The team worked with the IT Directorate to determine systems for reuse for the R&T Tests. As of now, we know that we can use in 2013 Census Test: ICADE/Centurion for Paper capture, Internet, telephone; DAPPS for payroll; UCRM for processing; and Cost and Progress for reporting.
- The team is currently working with the IT Directorate, who has provided 20RPO with a solutions architect to work with the 20RPO and Enterprise stakeholders to develop the proposed alternative architectures in support of the 2020 Census design.



WBS 4.104 – Workload Management (Cont.)

Risk Highlights:

- If existing software systems cannot be adapted then new software systems will need to be developed/built for workload Management to accomplish 2020 R&T Tests.



WBS 4.104 – Workload Management (Cont.)

Challenges:

- There may not be enough call centers in the United States to handle the call volumes from respondents for providing telephone assistance and taking responses over the phone. Workload Management is looking into virtual telephone solutions where agents can work in locations (including their homes) other than a “brick and mortar” call center to support telephone operations.
- The 2020 Census is looking at the in-house solutions such as the paper data capture system and Internet system as the possible solution for the 2020 Census. The challenge is will the in-house systems be able to demonstrate the capability to meet 2020 Census requirements in time for us to make a “build vs. buy decision.”

WBS 4.104 – Workload Management (Cont.)

Near-term Project Focus Items:

- Work with 2020 Systems Engineering and the IT Directorate on selection of an Operations Control System (OCS) developer.
- Evaluate reporting requirements to determine application developers and hardware needs.
- Continue to determine requirements for post data collection processing for the 2020 R & T testing.
- Initiate a requirements management /change control system for detailed solution requirements and specifications.



WBS 4.104 – Workload Management (Cont.)

Near-term Project Focus Items:

- The Telephony sub-team is doing market research on decentralized call centers for 2014 Census Test.
- Workload Management will support its Systems Re-use sub-team to determine if we can develop systems and applications in time to meet the R&T teams' testing requirements.