

2020 Census Program Management Review

Program Status Reports

Program Management Projects

Systems Engineering and Integration Projects

Geographic Programs-Related Projects

Systems-Related Research Projects

Content and Outreach-Related Projects

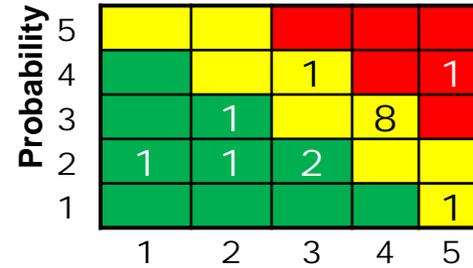
Evaluations and Experiments-Related Projects

June 21, 2013

2020 Census Program Status Report

- The following status slides were compiled from the Monthly Status Reports (MSR) with annotations by the 2020 Program Managers, where additional context would be helpful.
- Summary level information about program risks is provided on the following page and in the MSR. Project level risk information can also be obtained by contacting Charles Fowler III, Maria Birnkammer and Michael Niosi of the 2020 Research and Planning Office and Decennial Management Division.
- Questions can be sent to 20rpo.program.management@census.gov. We will reply in writing to questions by July 12.

2020 Census Program-Level Lifecycle Risks (1 Red, 10 Yellow, 5 Green) June 12, 2013



WBS	ID #	Name	Level	Color	Probability	Total Impact	Exposure	Cost	Schedule	Technical	Customer Expect.	Public Trust
1.105 Program Level Research & Testing	LC-016_AdRec Use Policy	AD Rec Use Policy	H	red	4	5	20	5	3	3	3	2
1.106 Budget Mgmt.	LC-001_Cost Model Assumptions	Cost Model Assumptions and Projections	M	yellow	3	4	12	4	4	4	4	1
1.106 Budget Mgmt.	LC-002_Cost Goal	Cost Goal	M	yellow	3	4	12	4	4	4	4	1
1.106 Budget Mgmt.	LC-003_Budget Impact to Designs	Budget Impact to Designs	M	yellow	4	3	12	3	3	3	3	1
1.106 Budget Mgmt.	LC-006_FY14 Funding	Requested Funding for FY14	M	yellow	3	4	12	4	4	4	4	2
1.110 Human Capital Mgmt.	LC-007_Skillsets	Skillset Shortage	M	yellow	3	4	12	4	4	4	4	1
2.101 Systems Engineering & Integration	LC-010_X-Program_IT_Solutions	Cross Program IT Solutions	M	yellow	3	4	12	4	4	4	1	1
1.104 Acquisition & Sourcing Mgmt	LC-011_Flexible ACQ	Flexible and Quick ACQ Process	M	yellow	3	4	12	3	3	4	3	1
1.108 Communications & Stakeholder Engagement Mgmt	LC-012_External Support	External Stakeholder Support for the 2020 Design	M	yellow	3	4	12	4	3	2	2	1
1.105 Program Level Research & Testing	LC-015_Program Lifecycle	Program Lifecycle	M	yellow	3	4	12	3	4	3	4	1
1.106 Budget Mgmt.	LC-004_ACS Funding	ACS Funding	M	yellow	1	5	5	5	5	5	4	1
1.109 Performance Mgmt & Integrated Program Control & Performance Measurement	LC-008_Resist PM	Resistance to PM/SE and Accountability	L	green	2	3	6	3	3	3	3	1
2.101 Systems Engineering & Integration	LC-009_Reqs_Eng	Requirements Engineering	L	green	2	3	6	3	3	3	3	1
1.104 Acquisition & Sourcing Mgmt	LC-018_TAA	Trade Agreement Act	L	green	3	2	6	1	0	2	1	1
1.106 Budget Mgmt.	LC-019_ACS Voluntary Participation Funding	ACS Voluntary Participation	L	green	2	2	4	2	1	2	2	1
1.105 Program Level Research & Testing	LC-017_IRS Data Access	IRS Data Access	L	green	2	1	2	1	1	1	1	1

2020 Census Program Management Review

Program Management Project Status Reports
Ann Wittenauer, Investment Area 1.0 Lead

1.101 – Strategic Documents
1.102 – Program Management (Includes Document Management, Change Management, and Knowledge Management)
1.103 – Governance
1.104 – Sourcing and Acquisition Management
1.105 – Program Level Research and Testing Management
1.106 – Budget Management
1.107 – Schedule Management
1.108 – Communications and Stakeholder Engagement Management
1.109 – Performance Measurement and Management
1.110 – Human Capital Management
1.111 – Risk Management (Includes Issue Management)

June 21, 2013

1.101 – Strategic Documents

Project Description:

- Provides the strategic direction on goals, objectives, strategies, performance, and investment approaches for the 2020 Census Program and its projects.

Recent Accomplishments:

- Began revisions to the FY 13 Business Plan to reflect impacts of the enacted FY 13 Budget

Near-term Project Focus Items:

- Complete updates to the FY 13 Business Plan and revise the draft FY 14 Business Plan to reflect impacts of the enacted FY 13 Budget, i.e. work deferred from FY 13 to FY 14.

1.102 – Program Management

Project Description:

- Establishes the framework to efficiently and effectively manage the 2020 Census Program through the use of a full lifecycle development approach, common/corporate practices and processes, a budget aligned with the schedule and scope, rigorous yet appropriate review processes, stakeholder engagement, and a transparent and inclusive team structure

Recent Accomplishments:

- Facilitated collection of lessons learned from PM and SE&I users using a SharePoint survey
- Began work on the planned, annual revisions to the program management (PM) strategies and plans, which document 11 PM processes, in order to mature the processes before later phases of the decennial lifecycle.
- Released publically the remaining three reports of the one-hundred in the *2010 Census Programs for Evaluations and Experiments* (CPEX) and completed all program archiving closeout activities.
- Put 22 recommendations from the three remaining *2010 Census Program for Evaluations and Experiments* (CPEX) reports into the Knowledge Management database and assigned them to 2020 program areas to document action plans. Cumulatively for the 2010 CPEX, this has been accomplished for all 100 reports, consisting of 699 recommendations
- Shared a copy of the Knowledge Management database with the Office of Inspector General, the Government Accountability Office, the Office of Management and Budget, and the National Academy of Sciences.

1.102 – Program Management (Cont.)

Recent Accomplishments (cont.):

- Collaborated with IT to customize SharePoint to provide, amongst other things, the following features:
 - **Electronic Document Management Workflow** to automate document reviews and approvals
 - **Extranet** to make documentation accessible to external stakeholders
 - **Business Intelligence** to automate performance management and measurement reporting, including the 2020 Dashboard
 - **Change Management** to automate this process

1.102 – Program Management (Cont.)

Near-term Project Focus Items:

- Re-baseline the 2020 Program Management documentation for FY 14.
- Facilitate a program integration workshop to reflect changes to the 2020 Census Program due to the enacted FY 13 budget.
- Associate recommendations from the Office of Inspector General and the Government Accountability Office with related *2010 Census Program for Evaluations and Experiments* (CPEX) recommendations and share the research action plans with oversight representatives.
- Follow up to ensure action plans for the 2010 CPEX recommendations (previously assigned to teams) are being prepared, and enter them in the Knowledge Management database as completed through the disposition phase. Of the 414 active recommendations assigned to teams, disposition for 338 (approximately 82 percent) is complete.

1.103 – Governance

Project Description:

- Governance occurs at the organizational, program, and project levels. At each of these levels, the governance structure details who is accountable, the most appropriate person to make decisions, and the forums for information exchange to discuss risk, issues, and changes to scope, budget, and schedule.

Recent Accomplishments:

- Kicked-off the 2020 Decennial Leadership Group (DLG) on March 25 and convened the DLG on the following dates:

DLG Meeting Date	Meeting Topic
June 17, 2013	Offline Review of Reassessment Impact Statement
June 10, 2013	Reassessment
June 3, 2013	Reassessment
May 24, 2013	Reassessment
May 6, 2013	Reassessment
April 29, 2013	Reassessment & 2020 Roadmap and Function Maps
April 22, 2013	Reassessment
April 8, 2013	Reassessment
March 25, 2013	DLG Kickoff and Notional Target State Data Collection Architecture for 2020

1.103 – Governance (Cont.)

Recent Accomplishments, Cont.:

- Convened the 2020 Executive Steering Committee on the following dates:

ESC Meeting Date	Meeting Topic
June 4, 2013	Follow-up to the 2020 FY 14 Budget and Reassessment Discussion on May 28
May 28, 2013	Update on the Budget and Reassessment Work for the 2020 Program
May 7, 2013	Overseas Enumeration
April 30, 2013	Update on the 2020 Reassessment
April 16, 2013	An Illustrative Approach for Using Administrative Records for NRFU Enumeration
April 9, 2013	Notional Target State Data Collection Architecture for 2020
March 19, 2013	Updates Regarding Use of Administrative Records for Non-Response Follow-up

Near-Term Focus Items

- Expand project level governance to include portfolio management, e.g. to prepare teams for the milestone review boards required for all 2020 Census sourcing decisions and to provide further transparency during project selection, control and evaluation.

1.104 – Sourcing and Acquisition Management

Project Description:

- The process to identify what each project needs to acquire the identification of the resources necessary to satisfy those acquisitions (e.g., people, equipment, services, etc.), the identification of in-house resources available to satisfy the needs and if insufficient, the completion of a sourcing assessment that supports a sourcing decision.

Recent Accomplishments:

- Developed a SharePoint market research repository to capture and sort vendor information, as well as notify stakeholders of upcoming vendor demonstrations and meetings, in order to build enterprise level coordination of engagement with industry.
- Conducted two market research capability demonstrations in the Center for Applied Technology in collaboration with the IT Directorate. Topics included technologies related to: cloud computing, cloud testing, mobile devices, big data, conferencing and interactive voice response (IVR). These sessions will help inform our 2020 requirements.

1.104 – Sourcing and Acquisition Management (Cont.)

Near-term Project Focus Items:

- Charter the new corporate level market research team co-led by the IT Directorate, 2020 Census Directorate, and Acquisition Division. Develop a concept of operations for this team which is intended to help the agency achieve acquisition cost efficiencies and strategic sourcing goals.

1.105 – Program Level Research and Testing

Project Description:

- The process to plan, direct, and oversee the R&T activities for FY12-FY14 and to integrate the research recommendation for decision-making on operational design solutions.

Recent Accomplishments:

- Continued to develop the lifecycle roadmap and FY 15 budget submissions.
- Conducted a walkthrough of the FY 15 budget request with all stakeholder divisions.
- Briefed the Decennial Leadership Group (DLG) on the 2020 Lifecycle Roadmap which documents key milestones, deliverables, and decision points. The roadmap is a work in progress and will mature with time.
- Briefed the DLG on the 2020 Census Function Maps. The function maps are a hierarchical representation of the functions that must be performed to conduct the 2020 Census, the key information exchanges among the functions and with external parties who participate in the census, and data used to support census operations. The function maps focus on what needs to be done rather than how it will be done.

1.105 – Program Level Research and Testing (Cont.)

Recent Accomplishments (cont.):

- Developed and documented a method that can be used for conducting trade-off analysis to support design options/alternatives decision making for the 2020 Census operations. The methodology requires vetting before it is approved.
- Drafted a high-level concept of operations that outlines thinking with regard to the Census Bureau's approach to conducting the 2020 Census. As the initial version of an emerging concept of operations, the document reflects and supports evidence based decision making by describing concepts that have been discussed and their rationale, identifying decisions still be made, presenting options under consideration for pending decisions, and describing some of the risks and issues affecting the implementation of the design concept.

Near-term Project Focus Items:

- Baseline the 2020 Function Maps
- Roll out and solicit feedback on the Trade-off Methodology
- Mature the 2020 Lifecycle Roadmap

1.106 – Budget Management

Project Description:

- Defines the methods used to plan, allocate, and execute the 2020 program and project budgets.

Recent Accomplishments:

- Submitted the FY 2014 budget to Congress
- Started the FY 2015 budget submission to the Department of Commerce

Near-term Project Focus Items:

- Address FY 2014 funding scenarios

1.107 – Schedule Management

Project Description:

- The methodologies, management practices, and tools that ensure the proper development, dissemination, and usage of program schedules and related information

Recent Accomplishments:

- Filled a key vacancy – Schedule and Performance Measurement Staff Lead, Wendy P. Button
- Provided schedule concepts training
 - May 7, 2013; May 21, 2013; May 28, 2013; and June 18, 2013
- Responded to oversight inquiries

1.107 – Schedule Management (Cont.)

Near-term Project Focus Items:

- Continue to resolve the gaps in the master activity schedule and progressively elaborate the level of detail. The focus will be on revisions related to the testing strategy, due to the enacted FY 13 budget, and high level decision points for subsequent phases of the lifecycle.
- Complete a risk assessment of migrating to Microsoft Project as the 2020 schedule management tool.

1.108 – Communications and Stakeholder Engagement Management

Project Description:

- The process to provide timely, accurate, and consistent information that is targeted and relevant to each audience/stakeholders communication's needs.

Recent Accomplishments:

- GAO held an entrance meeting on June 6, 2013. The objectives of this engagement were as follows:
 1. Determine the status of and plans for the Bureau's IT activities to support the 2020 Census;
 2. Determine the Bureau's progress in implementing prior GAO recommendations aimed at improving IT management; and,
 3. Identify key IT risks facing the 2020 census and evaluate the adequacy of the Bureau's efforts to mitigate these risks. Follow-up meetings and information exchange have begun.

1.108 – Communications and Stakeholder Engagement Management (Cont.)

Near-term Project Focus Items:

- Develop an international collaboration paper that will focus on 2020 census planning efforts and how the Census Bureau will collaborate with other countries to share ideas and gain insight and feedback on plans for the 2020 Census.
- Baseline all Memoranda of Understanding for the 2020 Census, Research and Test Phase between the 2020 Research and Planning Office and participating divisions.

1.109 – Performance Measurement and Management

Project Description:

- The process of monitoring project scope, cost, and schedule performance baselines, of individual projects and the program, using business and technical performance measures.

Recent Accomplishments:

- Filled a key vacancy – Performance Measurement Lead, Michael Cardella, Jr.
- Developed, in conjunction with the Systems Engineering & Integration (SEI), preliminary metrics for the systems-related projects.
- Developed an approach for tracking progress for “true” research projects with a “pilot” planned for four teams for July and August.

1.109 – Performance Measurement and Management (Cont.)

Near-term Project Focus Items:

- Refine the systems-related metrics in conjunction with SE&I.
- Conduct the “pilot” of progress measures for the OPS, or R&T, Teams through end of August.
- Refine performance metrics, in conjunction with the team leads and their program managers, by the end of the calendar year. Metrics will be reviewed each month to assess the overall status of the 2020 Census Program.

1.110 – Human Capital Management

Project Description:

- Ensures human resources are tied effectively to all aspects of program/project requirements and informs the planning process for the 2020 Census Directorate.

Recent Accomplishments:

- Kicked off implementation teams to add details surrounding the pending Directorate reorganization.

Near Term Project Focus:

- Support the Directorate reorganization

1.111 – Risk Management

Project Description:

- The process of identifying and mitigating potential problems that could negatively affect projects and the 2020 Census program.

Recent Accomplishments:

- Implemented the use of the Enterprise-level Risk Management tool introduced by the Office of Risk Management and Program Evaluation
- Revised the 2020 Census Risk Management Plan in preparation for FY 2014
- Facilitated the Risk and Issues Users Forum to answer questions and help facilitate project-level risk management
- Delivered formal issue management training

1.111 – Risk Management (Cont.)

Near-term Project Focus Items:

- Continue to identify and raise issues to the Risk Review Board to monitor and resolve.
- Continue to provide classroom training for the project-level risk and issue points of contacts.

2020 Census Program Management Review

Systems Engineering and Integration (SE&I) Project Status Report

Patricia McGuire, Investment Area 2.0 Lead

2.101 – Technical Integration

2.102 – Decennial Architecture

2.103 – Requirements Engineering

2.104 – SE&I Management Functions

2.105 – Enterprise IT Infrastructure and Architecture Integration

2.106 – Security and Privacy

June 21, 2013

2.101 – Technical Integration

Project Description:

- The Technical Integration project develops standards and plans for design, development, integration, and testing, ensures conformance with enterprise standards, puts in place processes to ensure data integrity and data quality, and integrates SE&I related activities across the 2020 Census Research and Testing (R&T) Phase.

2.101 – Technical Integration

Recent Accomplishments:

- Worked with the IT Directorate to ensure that enterprise-wide deployment of Hewlett Packard Application Lifecycle Management (HP ALM) as the requirements management tool addresses the Decennial business needs. The 2020 program is beginning the transition of our requirements into the enterprise supplied tool.
- Supported SE&I component of program metrics implementation using the Business Intelligence (BI) SharePoint tool.
- Presented standard System Development Life Cycle (SDLC) activities to System Reuse Team and identified representatives to build out detailed system development schedules. Prototyped approach with Universe Control and Response Management (UCRM) area.
- Submitted the R&T Phase program-level Test and Evaluation Management Plan (TEMP) to the baselining process.

2.101 – Technical Integration (Cont.)

Near-term Project Focus Items:

- Ensure field test system development teams understand the technical metrics they must report against.
- Continue assisting SE&I metrics implementation via the Business Intelligence SharePoint application.

2.102 – Decennial Architecture

Project Description:

- The Decennial Architecture project facilitates the development of the business/ solution architecture and ensures, aligns and complies with the enterprise architecture.

Recent Accomplishments:

- Drafted and conducted initial reviews of draft 2020 Census Field Test Solutions Architecture.
- Presented a draft of the notional 2020 Target Architecture to various groups, including the Executive Steering Committee.

Near-term Project Focus Items:

- Develop work plan to complete the 2020 Solution Architecture and IT Roadmap due by FY 2015.

2.103 – Requirements Engineering

Project Description:

- The Requirements Engineering project defines the processes and tools related to eliciting and managing requirements for the 2020 Census R&T phase and beyond.

Recent Accomplishments:

- Re-submitted 2020 Census Mission Level Business Requirements to the Document Management team to have them baselined following additional stakeholder reviews.
- Drafted the project charter for the 2020 Census Business-Capability-Solution requirements development effort.
- Began gathering Project Level Business and Capability Requirements for recently formed integrated project teams (IPTs) focused upon teams' scope and high-level needs.

2.103 – Requirements Engineering (Cont.)

Near-term Project Focus Items:

- Draft Requirements Engineering change management process flow.
- Review and update upward traceability of R&T Phase project level business requirements to mission level business requirements.
- Conduct review and validation of new and existing R&T teams' capability requirements.
- Baseline 2020 Census Requirements Development Project Charter.
- Align requirements with the 2020 Census function map components to ensure a consistent and comprehensive view of the 2020 Census scope.

2.104 – Management Functions

Project Description:

- The Management Functions project ensures that technical management standards and SE&I functions are established and integrated to support program and project needs throughout the 2020 Census Lifecycle

Recent Accomplishments:

- Completed internal quality management audit of Test and Evaluation Management Plan (TEMP) and process.
- Completed Performance Measurement audit.
- Began Schedule Management audit.
- Prepared a summary of our internal program Risk Management audit results for staff from the DOC OIG.

2.104 – Management Functions (Cont.)

Near-term Project Focus Items:

- Draft planned yearly updates to the following baselined SE&I process plans to address lessons learned and results of internal program audits:
 - Decennial Architecture Strategy and Plan
 - Quality Management Strategy and Plan
 - System Engineering Management Plan (SEMP)
 - Testing Strategy and Testing and Evaluation Management Plan (TEMP)
 - Configuration Management Strategy.
- Continue internal program audits of 2020 R&T phase process areas.

2.105 – Enterprise IT Infrastructure and Architecture Integration

Project Description:

- The Enterprise IT Infrastructure and Architecture Integration project facilitates, coordinates and administers the provision of IT infrastructure and architecture services between the Information Technology Directorate (ITD), other IT providers and the 2020 Census program.

Recent Accomplishments:

- Met with internal stakeholders to identify use cases for potential Census Bureau involvement in the National Strategy for Trusted Identities in Cyberspace program. The sponsoring agency was NIST.
- Drafted the Enterprise IT Infrastructure and Architecture Integration Plan.
- Sponsored a session with the National Institute of Standards and Technology (NIST) about user-managed identity efforts, such as Open ID, and their implications for the 2020 Census program.

2.105 – Enterprise IT Infrastructure and Architecture Integration (Cont.)

Near-term Project Focus Items:

- Identify potential uses of cloud services to support the 2020 Census.
- Identify Enterprise Mobile Integration and Test Environment roles and responsibilities to support planned 2020 Census R&T field tests and future needs.
- Meet with National Institute of Standards and Technology on Census Bureau involvement in National Strategy for Trusted Identities in Cyberspace pilot(s).

2.106 – Security and Privacy

Project Description:

- The Security and Privacy project aligns with the Census Bureau's Risk Management Framework (RMF) to maintain acceptable Security and Privacy controls for all IT systems while minimizing the burden on research and testing teams. By building security principles into the systems architecture from inception, the Security and Privacy project acts as conduit between the IT Directorate, Office of Information Security (OIS), the 2020 Research and Planning Office (20RPO), and 2020 teams to develop Federal Information Security Management Act (FISMA) compliant Assessment and Authorization (A&A) packages for 2020 R&T Phase systems.

Recent Accomplishments:

- Revised the Security and Privacy Team charter to incorporate stakeholder comments.
- Revised draft presentation to the operations area R&T teams on the role of Security and Privacy Team based upon stakeholder comments.

2.106 – Security and Privacy (Cont.)

Near-term Project Focus Items:

- Finalize security and privacy charter for the privacy process area under SE&I, and obtain 20RPO Program Management approval.
- Conduct presentation to Operations area R&T teams on the role of the security and privacy group.

2020 Census Program Management Review

Geographic Programs-Related Projects Maryann Chapin, Program Manager

3.101 – Master Address File (MAF) Error Model

3.102 – Independent MAF Quality Assessment

3.103 – Local Update of Census Address (LUCA) Program Improvement

4.107 – Non – ID Processing

8.101 – Improving Quality Control

8.108 – Field Staff Training

June 21, 2013

3.101 – Master Address File (MAF) Error Model

Project Description:

- Create a model that results in predictions of where MAF coverage error occurs and where it does not. This model will incorporate data that have been found to be correlated with coverage.

Recent Accomplishments:

- Briefed the Geographic Resources subgroup of the National Academy of Sciences on the status of the planning and development of the MAF Error Model and on the early thinking for the design of the MAF Error Validation Test.
- Completed initial work to assess the usability of the Planning Database (PDB), American Community Survey (ACS) and 2010 Census files in conjunction with the MAF Error Model. The PDB is block-group level data from the 2010 Census and the ACS. The PDB assembles a range of housing, demographic, socioeconomic, and census operational data. The variables in the PDB have been extracted from Census and ACS databases and summarized for all block groups in the country.
- Created an analysis file using variables from selected sources for potential inclusion in the MAF Error Model development

3.101 – Master Address File (MAF) Error Model (Cont.)

Near-term Project Focus Items:

- Finalize report documenting the analysis conducted on data collected via field listing operations. The field listing operations provided an opportunity to assess early hypotheses associated with predictors of coverage error.
- Develop criteria for the MAF Error Model:
 - Continue refinement of which variables to include in MAF Error Models. For example, by excluding one variable when a pair of variables is highly correlated.
 - Create final models for this phase of the research

3.102 – Independent MAF Quality Assessment

Project Description:

- Create measures of coverage of the MAF that work in concert with related measures resulting from the Geographic Support System Initiative to create a picture of the quality of the MAF.

Recent Accomplishments:

- Developed a sample design for the MAF Error Model Validation Test. The MAF Error Model Validation Test will be used to evaluate and update the MAF Error Model.

Near-term Project Focus Items:

- Continue development of a design document for the MAF Error Model Validation Test, and initiate test selection activities that include identifying geographic areas where the test will occur, obtaining agreement on the management/structure for the field test, etc.
- Determine sample size for MAF Error Model validation test.
- Brief and receive approval for the design and sample size of the MAF Error Model Validation Test.

3.103 – Local Update of Census Address (LUCA) Program Improvement

Project Description:

- Select a new LUCA operational design by September of 2014 based on recommendations resulting from research and feedback on those recommendations from tribal, state and local governments. Incorporate improvements to the 2020 LUCA Program that are cost-effective and yield high data quality given:
 - plans to implement intercensal address partnership activities as part of the Geographic Support Systems Initiative (GSS-I)
 - potential plans for a targeted address canvassing operation
 - additional analysis from 2010
 - input from local governments through focus groups on potential models for 2020 LUCA

3.103 – Local Update of Census Address (LUCA) Program Improvement (Cont.)

Recent Accomplishments:

- Completed review of all phases of the 2010 LUCA Program.
- Compiled the 2010 LUCA results by participating governments to help determine if there is a link between the number of new addresses provided in 2010 LUCA and the number of successfully enumerated LUCA addresses in relation to the size of their government. The results can indicate if there was a link between the percent of records provided in relation to the government size and their enumeration rate. The results could allow us to flag “unusually high” LUCA 2020 submissions for more detailed review.

3.103 – Local Update of Census Address (LUCA) Program Improvement (Cont.)

Near-term Project Focus Items:

- Develop initial recommendations for the 2020 LUCA Program.
- Complete analysis of 2010 LUCA addresses matched against administrative records.
- Begin to research LUCA in-house validation methods to determine if Geography Division can validate LUCA records using imagery and other GSS-I address validation methods.
- Initiate planning activities to develop and manage focus groups designed to obtain feedback from partners on potential 2020 LUCA models.

4.107 – Non-ID Processing

Project Description:

- Determine options for enhancing automated address matching and geocoding processes for responses lacking a Census identification code.
- Establish options for operational cost savings by decreasing workload for Clerical Non-ID Processing and any associated field verification work.

Recent Accomplishments:

- Completed preliminary analysis of the results from automated Non-ID processing of respondent-provided addresses collected during the 2013 National Census Contact Test .
- Initiated discussions with Non-ID Processing system providers regarding real-time processing (defined for Non-ID purposes as occurring during the response) via a service-oriented approach.
- Completed initial usability testing for Geography Division's prototype map interface.
- Initiated a proof of concept exercise regarding verification of Non-ID addresses by means of geographic data submitted by local governments to Geography Division.

4.107 – Non-ID Processing (Cont.)

Near-term Project Focus Items:

- Brief 2020 team leaders and program managers on the results from the initial analysis of address supplementation work conducted by the Center for Administrative Records Research and Applications (CARRA), and the matching and geocoding results from Geography Division (GEO), for the Non-ID workload from the 2013 National Census Contact Test.
- Conduct usability testing for several address collection screen options for the internet questionnaire, and potentially integrate the map interface with the address collection screens to include it in the testing.

8.101 – Improving Quality Control

Project Description:

- Research ways to improve Quality Control for field data collection, by:
 - Using administrative records to focus field work on suspicious cases and/or reduce field work for both listing and enumeration operations.
 - Using GPS data to spot potential falsification
 - Detecting falsification or deviations from procedures at the LCO level
 - Predicting falsification at the interviewer level, and
 - Automating Observation Checklists

8.101 – Improving Quality Control (Cont.)

Recent Accomplishments:

- Completed field work for the 2013 Quality Control Tests. The goal of these tests was to test the production and listing check/re-interview functionality of the listing and enumeration applications.
- Worked on resolving data issues and closing out the 2013 Quality Control Tests.
- Received approval from the IRS to start using their data in our quality control research. We will explore whether administrative data and other Census Bureau data sources could be used in lieu of field work to quality check listing assignments and/or as a way to identify possible falsification for field follow-up.

8.101 – Improving Quality Control (Cont.)

Near-term Project Focus Items:

- Complete analysis of 2010 Nonresponse Follow-up data and administrative records data to begin understanding how administrative records data could be used for re-interview quality control.
- Continue analysis of 2010 Address Canvassing data and administrative records to begin understanding how administrative records data could be used for quality operations control of listing operations.

8.108 – Field Staff Training

Project Description:

- To improve the efficiency of training field staff to better utilize advanced training techniques, to get better data at lower costs.

Recent Accomplishments:

- Engaged with representatives from the Center for Applied Technology (CAT) Lab for them to demonstrate various capabilities of automated training-related products currently in use, in production, and potentially available for use (Commercial Off The Shelf).
- Conducted market research activities such as meeting with companies and receiving capability briefs on products related to automated training approaches and engagement mechanics.

8.108 – Field Staff Training (Cont.)

Near-term Project Focus Items:

- Continue to meet with representatives from the Center for Applied Technology Lab to view additional automated training products.
- Continue to conduct corporate market research, meeting with various companies and receiving capability briefs on their products.
- Create an audience analysis document, which consists of the different types of positions and the various duties of the positions.

2020 Census Program Management Review

Systems-Related Research Projects

Andrea Brinson, Program Manager

4.101 – Automating Field Activities

4.102 – Reducing and Improving Person Follow-up Operations

4.104 – Workload Management Systems and Adaptive Design

8.109 – Logistics Management/Field Infrastructure Study

8.110 – Virtual Office Computing Environment and Field Office
Test Bed

June 21, 2013

4.101 – Automating Field Activities

Project Description:

- The purpose of this project is to investigate how the Census Bureau can modernize and increase the efficiency and utility of our field operational infrastructure.
- This project will attempt to identify, develop, test, and refine options that:
 - Make field operations more efficient through enhanced use of technology.
 - Improve data quality during field operations through enhanced use of technology.
- This project is using the Agile software development methodology.

4.101 – Automating Field Activities (Cont.)

Recent Accomplishments:

- Continued contributions to the Listing and Mapping Application development by defining 2020 Census requirements.
- Completed approximately 75% of the enumerator screens needed to conduct an interview for the field testing next year.
- Completed enumerator screens required by the Center for Adaptive Design that capture enumerator observations in the event of an unsuccessful contact attempt.
- Completed development for the tests of the operational control functionality to allow field supervisors to distribute work at any time during the operation.
- Began documentation and development of communication processes between the hand held enumerator system and the operational control system.
- Completed functionality that enables case level notes to be added, deleted or edited by various users as their role allows.
- Began development of geospatial tools within the control system to show visual indication of casework and field staff duty station.

4.101 – Automating Field Activities (Cont.)

Near-term Project Focus Items:

- Continue to work on finalizing the Automating Field Activities Master Test Plan for research and testing.
- Continue the work on the Automating Field Activities Testing roadmap including goals, objectives and success criteria.
- Continue software development of an enumeration application with a goal of supporting field testing activities.
- Continue software development of an operations control system which can be used to manage a variety of field operations.
- Develop business processes to accommodate situations an enumerator could face when conducting an enumeration operation.

4.102 – Reducing and Improving Person Follow-Up Operations

Project Description:

- The Reducing and Improving person Follow-up project is researching and will test ways of reducing the cost of in-person follow-up on cases sent to the field by optimizing the number of visits, determining whether to use telephone or in-person contact, or and tailoring operations to populations with special geographic and demographic characteristics.
- The project is reviewing the field operations conducted during the 2010 Census and is developing the recommendations for ways to streamline the overall Census field workflow.

4.102 – Reducing and Improving Person Follow-Up Operations (Cont.)

Recent Accomplishments:

- The Contact Strategies Sub-team continued discussions on the supplemental contact data (phone numbers) obtained from contact frame and received initial estimates as to the proportion of the sample with at least one telephone number.
- The team is meeting with the Operational Control System developers, enumeration application developers, and adaptive design developers to confirm data layouts and definitions.
- The team worked with the adaptive design developers to define the business rules within the enumeration application.
- The team conducted data analysis on the operational alternatives for 2020 focusing on streamlining operational timelines, reducing time in the field, and reducing operational cost.
- The team worked with the CES staff related to their work on operationalizing their recommended modifications to Customer Value Systems (CVS) pay rate methodology for paying the field Non-response enumerators. This will allow us to make adjustments to pay rates for the field enumerators based on the economy in 2020 more quickly than we did in the 2010 Census.

4.102 – Reducing and Improving Person Follow-Up Operations (Cont.)

Near-term Project Focus Items:

- Continue participating in developmental sessions for the enumeration application of the NRFU instrument.
- Continue developing specification requirements for contact data (email and phone numbers for initial contact) for field testing.
- Continue programming Time and Motion Study software for devices being used for field testing.
- Continue developing debriefing questionnaires for the enumerators and observers for field testing.
- Continue developing specification requirements for Nonresponse Follow-up Component of field testing.
- Complete specifications for the NRFU contact strategies for the enumeration device developers to use in building the functionality in the instrument.

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 the 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.
- 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.

4.104 – Workload Management (Cont.)

Recent Accomplishments:

- Workload Management Re-Use sub-team completed the 2014 Site Test Functional Diagram defining all the systems, the interfaces between the systems with the data to be exchanged, as well as the transfer protocol.
- The Workload Management Re-Use sub-team completed the Interface Connection document (ICD) / Interface Security Agreement (ISA) matrix ensuring alignment with the SEI requirements.
- The Workload Management team is currently working with the system owners to complete the SEI In-Sourcing Fact Sheet to document the systems and the SEI Cost Proposal to document system development cost for the 2014 Site Test.
- Workload Management team completed the 2014 Site Test Functional Diagram defining all the systems, the interfaces between the systems with the data to be exchanged, as well as the transfer protocol.

4.104 – Workload Management (Cont.)

Recent Accomplishments:

- The Workload Management team completed the Interface Connection document (ICD) / Interface Security Agreement (ISA) matrix ensuring alignment with the SEI requirements.
- The Workload Management team is currently working with other government agency to research their telephone operations. Recently worked with the Veterans Administration regarding their Benefits Program Telephony services.
- Workload Management Re-Use sub-team completed their risk register.

4.104 – Workload Management (Cont.)

Near-term Project Focus Items:

- The Workload Management Re-Use team will continue to review the 2014 Site Test Functional Diagram and the ICD/ISA matrix while updates, refinements and clarifications continue.
- The Workload Management team will continue working with the system owners on updates and will analyze the SEI In-Sourcing Fact Sheet and Cost Proposal requirements to determine application developers and hardware needs.
- The Workload Management team will work with the SEI requirements manager to begin to develop the capability requirements for the 2020 Census systems.

8.109 – Logistics Management/Field Infrastructure

Project Description:

- The purpose of this project is to conduct analysis and research in order to develop design alternatives for a field office and staffing structure and associated logistics systems to support field operations for the 2020 Census.*
- The two main objectives are to ...
 - Reduce the total cost and increase the efficiency of the field office and staffing structure for the decennial census.
 - Reduce the total cost and increase the efficiency of the logistics management/support solutions used to track, assemble, and deploy the materials needed to support field operations.

*For the purpose of this project, field structure is defined as office (including home office), warehouse, and other physical space used to support field operations and the regional and local organizational/staffing structure used to conduct field operations work.

8.109 – Logistics Management/Field Infrastructure (Cont.)

Recent Accomplishments:

- *Organized team into sub-teams and began developing detailed research questions and Study Plans.*
- Continue to gather 2010 “as was” information on staffing structure and workloads and field costs and information about the functions that were used in the field office and develop workflows for functional analysis of activities in the RCCs and LCOs.
- Began gathering information from other countries about their census field infrastructures.
- Began working with *Lifecycle Budget and Planning team* to conduct analysis of data surrounding field supervisory structure from 2010.

8.109 – Logistics Management/Field Infrastructure (Cont.)

Near-term Project Focus Items:

- Complete drafts of Study Plans.
- Refine detailed research questions.
- Continue work to identify sources of data/information to inform the research.
- Continue work to document 2010 “as was” and begin 2020 “to be” scenario development for possible field supervisory and field office infrastructures.

8.110 – Virtual Office Computing Environment and Field Office Test Bed

Project Description:

- The Virtual Office Computing Environment (VOCE) is a Research & Testing (R&T) development project to identify, test, and refine options that :
 - Develop a VOCE to support the 2020 Census R&T Program.
 - Deploy the VOCE to a physical Field Office Test Bed to conduct field tests for the 2020 Census R&T Program.
 - Identify and test options for providing other IT Infrastructure systems for the Field Offices in support of the 2020 Census R&T Program.
- The VOCE is an infrastructure system that provides office computing for users anywhere using a broadband Internet connection to perform Local or Regional Census Office IT.
- The VOCE will be built using the existing and scalable Enterprise Virtual Desktop Infrastructure (VDI) solution.
- The Field Office Test Bed is a physical location where a set of standard office hardware (PCs, printers, etc.) can be deployed with access to the VOCE for the purpose of testing.

8.110 – Virtual Office Computing Environment and Field Office Test Bed (Cont.)

Recent Accomplishments:

- Developed cost estimates for Field Office Test Bed (desktop hardware) for IT Network Infrastructure, and submitted the Virtual Desktop Infrastructure (VDI) Application and Integration requirements to the Census IT Directorate.
- Conducted market research related to a mobile solution as a type of local census office (LCO) to support field staff operations.
- Developed a cost estimate for the Virtual LCO infrastructure and the LCO IT support equipment.
- Submitted requirements for the 2014 Census Site Test.
- Identified various technology approaches for research and development in the 2014 Census Site Test (printing, telephones, Virtual Desktop Interface, and connectivity infrastructure).
- Conducted research and developed the Request For Information (RFI) for the Field Local Census Offices mobile solution.
- Finalized the Virtual Local Census Office (LCO) IT Infrastructure high-level requirements to support research and testing activities.
- Completed the development of the VOCE Project Charter.

8.110 – Virtual Office Computing Environment and Field Office Test Bed (Cont.)

Near-term Project Focus Items:

- Continue to develop VOCE IT infrastructure capability requirements.
- Continue to identify requirements for Virtual Desktop Infrastructure (VDI)/Software, VOCE IT Infrastructure, and identify LCO Test Bed requirements.
- Continue to conduct research and analysis on options and cost of using an Application Delivery Method versus a Desk Top Delivery Method for the Virtual Desktop Interface.

2020 Census Program Management Review

Content and Outreach Related Projects Adrienne Oneto, Program Manager

8.106 – Contact Frame

4.103 – Optimizing Self Response

8.104 – Privacy and Confidentiality Study

June 21, 2013

8.106 – Contact Frame

Project Description:

- Project 8.106 will assess non-address methods of contact persons and housing units.
- Alternate contact data will be identified, acquired, validated, and assembled into an alternate contact frame.
- The frame will also be used for field tests. The field test data will be analyzed to assess the quality of the frame information.

Recent Accomplishments:

- For the 2013 National Census Contact Test, conducted analyses of the reporting on validity of phone numbers and emails from commercial sources, as well as a cost/benefit analysis of commercial vendor files.
- Completed analysis of interviewer debriefing questionnaires.
- Began to obtain data, from 2010-2012 ACS and 2012 NCT, for analyses.

8.106 – Contact Frame (Cont.)

Near-term Project Focus Items:

- For the 2013 National Census Contact Test, continue to conduct analyses and write reports on the validity of phone numbers and emails from commercial sources, as well as cost/benefit analyses of commercial vendor files.
- Obtain additional data sources to continue evaluations of the phone numbers and emails from commercial sources.
- Work with the Center for Adaptive Design to purchase additional data to merge with our current contact frame data to support field testing activities.
- Purchase the files needed to enable us to determine, for each phone number in our contact frame, if it is a cell phone or landline. Develop the programming needed to make this determination.

4.103 – Optimizing Self Response

Project Description:

- Examine initial contact and self-response methods focusing on new modes and how response propensities differ by demographic and geographic groups.

Recent Accomplishments:

- Developed panel design to test in 2014 our proposed 5-Prong Strategy for Optimizing Self-Response.
- Met with our National Academy of Sciences advisors to discuss additional ideas in establishing contacts with respondents to promote high Internet response -- with and without User IDs.
- Presented our revised strategy for Optimizing Self-Response to the Population Association of America and the Census Scientific Advisory Committee.
- Met with NIST/NSTIC to discuss the “Identity Ecosystem” initiative. The “Identity Ecosystem” is an online environment that will enable people to validate their identities securely, but with minimized disclosure of personal information when they are conducting transactions.

4.103 – Optimizing Self Response (Cont.)

Near-term Project Focus Items:

- Continue to refine field testing design for the 5-Prong Strategy. Work with other stakeholders to ensure content mode consistency -- for all Self-Response and the Enumerator delivered data collection instruments.

8.104 – Privacy and Confidentiality Study

Project Description:

- Understanding how new contact and response modes and the use of administrative records will impact the public's perception of the Census Bureau's commitment and ability to protect privacy and confidentiality.

Recent Accomplishments:

- Submitted first set of questions for split-ballot testing for programming. Split-ballot testing is when a sample is randomly divided to test two or more versions of a questionnaire.
- Worked on study plan, identifying panel and recruitment plan for split-ballot testing.
- Received access to GovDelivery to send out emails for split-ballot testing.
- Met with Carnegie Mellon about continued collaboration on Privacy and Confidentiality messaging research.
- Began recruiting and identified an alternative for data collection. Pilot survey being programmed by Application Services Division.
- Presented papers on Gallup study at American Association for Public Opinion Research.

8.104 – Privacy and Confidentiality Study (Cont.)

Near-term Project Focus Items:

- Begin Social Media research on public discussions now occurring about the Census Bureau and topics related to privacy, confidentiality, and administrative records usage.
- Submit presubmission notice for OMB package for generic clearance for small-scale split-ballot iterative testing.
- Develop and pretest questions about BYOD to put on the Gallup study. The Gallup study is a series of rotating questions through a time series.

2020 Census Program Management Review

Evaluations and Experiments-Related Projects

Kevin Deardorff, Program Manager

5.101 – Coding, Editing, and Imputation Study

8.102 – Administrative Records Fitness-For-Use

8.105 – Matching Process Improvement

8.107 – Administrative Records Modeling

June 21, 2013

5.101 – Coding, Editing, and Imputation Study

Project Description:

Develop improved methods for missing data in the census:

- Improve methods for
 - count imputation: assign status of address (occupied, vacant, or delete?), and, if necessary, number of people in house
 - characteristic imputation (race, Hispanic origin, age, sex, relationship, tenure)
 - editing characteristic data
 - coding for write-ins of race and Hispanic origin
- Consider approaches that
 - include the use of available administrative records
 - enhance current procedures without using administrative records.

5.101 – Coding, Editing, and Imputation Study (Cont.)

Recent Accomplishments:

- Census Bureau experts described the details of the 2010 Census methods used for characteristic imputation and editing and provided expectations for the systems that would be used in the 2020 Census.
- Developed a list of questions for potential administrative record source files and delivered them to the Administrative Records Fitness-for-Use team. The questions relate to the quality and coverage of census characteristics on the files and their degree of consistency with census responses.
- Participated in discussions with the Policy and Communications team as to what extent the Census Bureau will be able to use administrative records for imputation in the 2020 Census.

Near-term Project Focus Items:

- Complete the review of and prepare documentation for appropriate statistical metrics to evaluate the accuracy of administrative records as they apply to count and characteristic imputation.
- Revise the 2020 Research and Testing Study Plan for coding, editing and imputation to better specify metrics to assess all research objectives.

8.102 – Administrative Records Fitness-For-Use

Project Description:

- Investigate administrative records (AR) sources to enhance data collection and processing methods for Nonresponse Follow-up (NRFU).
 - Explore agreement and disagreement in content across sources to develop approaches to resolve (such as modeling or business rules).
 - Produce recommendations for which AR sources are fit for operational uses such as count imputation, characteristic imputation, and modeling for NRFU.
- Project objectives
 - 1) Describe NRFU addresses with AR available and those lacking AR.
 - 2) Identify AR data that could support count and characteristic imputation.
 - 3) Identify and address conflicting information across AR sources.
 - 4) Assess quality of AR by source for intended uses (specifically NRFU).
 - 5) Assess best time of year to acquire data relevant to Census Day and

NRFU.

8.102 – Administrative Records Fitness-For-Use (Cont.)

Recent Accomplishments:

- Conducted initial data reviews from a sample state’s food stamp program (Supplemental Nutrition Assistance Program).
- Distributed to 2020 teams draft quality metrics templates for assessing individual and combinations of administrative record files (referred to as Quality Criteria Checklists). Fitness-For-Use team will work with other teams to determine the fitness for use of individual and specific composites of administrative records for use in meeting research objectives.

Near-term Project Focus Items:

- Consolidate multiple analysis tasks into a narrative that addresses this team’s current research questions.
- Evaluate and improve the “best address” selection rule when the same person is showing up in multiple places across administrative record sources.

8.105 – Matching Process Improvement

Project Description:

- Research and evaluate the methodology, techniques, and technology to improve matching of addresses and persons for the 2020 Census.
 - Research and assess matching techniques (including rule-based and probabilistic) to identify optimal methods by application.
 - Determine how to select cutoffs for probabilistic matching to optimize each application (i.e., how much agreement is needed between records to determine that they are actually a match).
 - Research error measurement in matching techniques, including determination of error and assumptions about causes.
 - Research and evaluate software to perform standardization and other processing to prepare data for matching.
 - Identify what data are needed to improve the quality of matching

8.105 – Matching Process Improvement (Cont.)

Recent Accomplishments:

- The Address Standardization sub-team finalized evaluation criteria to assess and compare six address standardization applications and created a test deck of approximately 48,000 records having a variety of address patterns.
- Began processing 2010 Census data through existing error measurement software.
- Presented Comparing Matching Systems sub-team plans to experts in the Methodology Review Panel.

8.105 – Matching Process Improvement (Cont.)

Near-term Project Focus Items:

- Complete documentation and schedule to create the Comparing Matching Systems Subteam (modifying and subsuming some scope from the Census Coverage Measurement – Administrative Records Match).
- Obtain approval to use a few commercial record files for address standardization and address matching research.
- Develop a research base-line for identifying person duplication, by invoking the Duplicate Person Identification (DPI) system on the 2010 Census Unedited File (CUF) and comparing results to 2010 operations. As part of the 2010 Census, this DPI system was applied to the Decennial Response File, which had multiple responses from the same housing unit and was a precursor to the CUF.

8.107- Administrative Records Modeling

Project Description:

- Consolidate and conduct research efforts for examining optimal scenarios of curtailing contacts during the Nonresponse Follow-up (NRFU) field operations with the supplemental use of administrative record sources.
- Project Objectives
 - Simulate how administrative sources can be used to supplement curtailed NRFU data collection.
 - Administrative records usage based on either a rule-based algorithm, model or both
 - Count and characteristic imputation approaches that can possibly include the use of administrative records sources
 - Assess the coverage and cost of simulated scenarios.
 - Compare resulting scenarios to identify possible combinations of NRFU visits and administrative records use to pursue.

8.107- Administrative Records Modeling (Cont.)

Recent Accomplishments:

- Continued research on the use of administrative records for occupancy status, census counts, and characteristics for Nonresponse Follow-up units.
- Examined budget cost implications of scenarios using administrative record and third party data sources to reduce Nonresponse Follow-up workloads in 2020.

Near-term Project Focus Items:

- Determine metrics to evaluate the accuracy of administrative records as they are applied to strategies to reduce the number of nonresponse field contacts.
- Estimate rough order of magnitude cost comparisons among strategies to reduce the number of nonresponse field contacts.