2020 Census Research and Testing Management Plan

A New Design for the 21st Century

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Version 3.1
Prepared by the Decennial Statistical Studies Division

United States™ Census Bureau

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Economics and Statistics Administration
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RESEARCH AND TESTING PROGRAM FOR THE 2020 CENSUS

1.0 BACKGROUND

The Census Bureau is making fundamental changes to the design, implementation, and management of the decennial Census in order to meet the strategic goal and challenge of the 2020 Census. These changes will build upon the successes and address the challenges of the previous censuses, while also balancing challenges of cost containment, quality, flexibility, innovation, and disciplined and transparent acquisition decisions and processes.

The purpose of the 2020 Census is to conduct a census of population and housing and disseminate the results to the President, the states, and the American people. The goal of the 2020 Census is to count everyone once, only once, and in the right place. For the 2020 Census we designed an operation that allows us to do this at a lower cost per household (adjusted for inflation) than the 2010 Census, while maintaining high quality results.

The objective of the Research and Testing (R&T) component of the 2020 Census is to develop 2020 Census design decisions based on solid evidence and a trade-off analysis aimed at conducting the 2020 Census at a lower cost per household (adjusted for inflation) than the 2010 Census, while maintaining high quality results. Evidence-based design decisions should be informed by the best insights that can be gathered–within schedule and budget constraints–on costs, benefits, and risks of different combinations of innovations.

The Research and Testing Management Plan provides direction for the R&T activities and decision-making in accordance with the critical success factors identified in the 2020 Program-Level Research and Testing Strategy and with the overall R&T objectives. This plan provides the overarching management and analysis framework for executing research and testing projects and integrating the results across projects to ensure a solution that reflects the best information available across the Census Bureau, and within the broader community. Specifically, it defines the high-level research for the life cycle of the program by defining the

- **research questions** to be answered,
- **resources** contributing to the research,
- **field test(s)** that will inform the answers to the questions,
- **status** that defines where we are toward the completion of the research,
- **completion** date or expected decision date, and
- **priority** placed on the research question.

These research questions are organized around the operations in the *2020 Census Operational Plan* (DCMD, 2015) and this R&T plan also describes the program-level analysis and integration questions across operations. Begun in 2012, the 2020 Census Research and Testing Program's research on cost-saving design changes was largely completed by the end of FY 2015, culminating in the release of the 2020 Census Operational Plan. In FY 2016, the Census Bureau has moved from the research and testing period to focus on operational design, development, and systems testing for the 2020 Census.

For budget tracking and reporting purposes, the work occurring in the FY12-FY15 Research and Testing Phase is organized around standard Work Breakdown Structure (WBS). Projects in the WBS may be associated with more than one of these research tracks.

2020 CENSUS RESEARCH AND TESTING STRATEGY

The 2020 Census Research and Testing (R&T) strategy, management, and activities support achieving the goals and objectives for the 2020 Census Program.

The *2020 Census Program-Level Research and Testing Strategy for FY 2012-2014* issued in November of 2011 aligned with the draft Census Bureau Strategic Plan (2012-2016). It was designed to address the four goals that cascaded from the Department's Balanced Scorecard: Mission Excellence, Customer Service Excellence, Organizational Excellence, and Workforce Excellence. This R&T Management Plan updates and defines the research and testing throughout the life cycle and maintains prior alignment.

2.0 GENERAL APPROACH

2.1 HIGH LEVEL VISION FOR RESEARCH AND TESTING

The basic process flow for the 2020 Census research is shown in Figure 1 below:

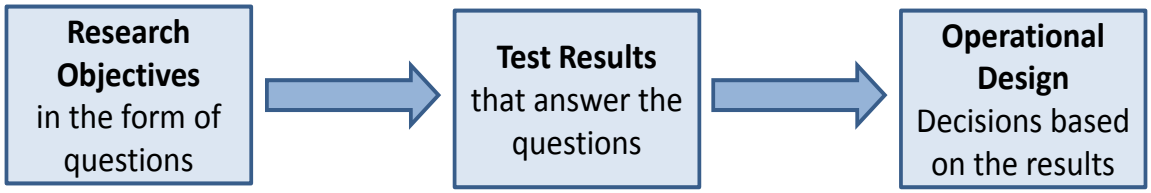

FIGURE 1: RESEARCH PROCESS

Research ideas are collected and prioritized. Based on available funding and time, research objectives are constructed and in the form of questions to help inform the design of tests to answer the questions. Formal test plans are written for each test to document the objectives and methods to answer the questions. Then we execute the test including an IT Architecture and Business Process Model for each test. Next, after the data are collected and analyzed, the results of the analysis are recorded in Results Reports. Those findings ultimately inform the design of the 2020 Census. Appendix B shows this mapping of high-level questions from the *Business Plan for the 2020 Census* (Colosi, 2013) to research objectives that are answered by various types of tests. Appendix B also maps the test results to design decisions found in the *2020 Census Operational Plan* (DCMD, 2015).

The tests conducted early in the decade (2012-2015) are aimed at answering specific research questions (objectives) needed to make decisions on the most important aspects of the operational design for the four key innovation areas. The four Key Innovation Areas are:

Starting in Fiscal Year 2016, the focus shifts to validating and refining the design by testing the interaction across operations. Appendix C shows :

- all the research questions to be answered in the 2016-2019 timeframe that align with the *2020 Census Operational Plan* (DCMD, 2015)*;*
- the test that will answer the question; and
- the date the results are expected to inform the design.

In addition, we begin to test production systems during the 2016 through 2018 time frame by validating and refining the design. This includes testing the interactions across operations and determining the proposed methodology for the operations. In addition, testing of production systems begins during this time frame and continues through 2018. An end-to-end test in with an April 1, 2018 Census Day will test the integration of all major operations and systems. Figure 2 below presents a graphical view of the high-level plan.

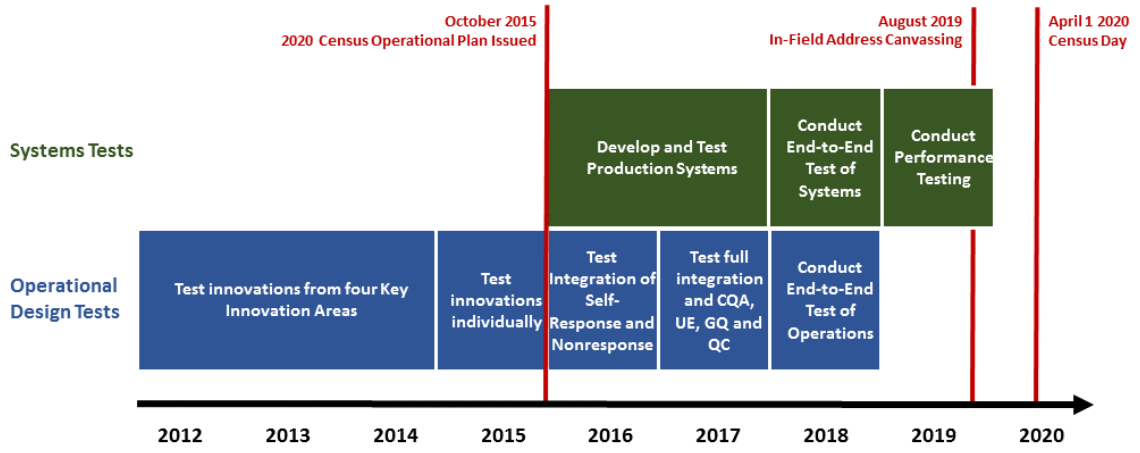

FIGURE 2: HIGH LEVEL VISION OF THE LIFECYCLE

2.2 GOALS OF RESEARCH AND TESTING

The multiyear integrated program for planning, testing, and developing the constitutionally mandated decennial census began with developing and solidifying the research and testing infrastructure in Fiscal Year (FY) 2012. During FY 2012, plans were developed and teams identified candidate methods for testing a number of operational options. FY2013 was a "proof-of-concept" testing year. In FY 2014, we focused on testing and refining specific options. We conducted numerous small operational field tests to iteratively test and refine the options. We also planned the 2020 Census acquisitions strategy. In FY 2015, we continued conducting field tests, including a large national self-response test to support selecting enumeration and infrastructure

options for self-response. Finally, by the end of FY 2015, we released the 2020 Census Operational plan that details the design of the 2020 Census. The expected results of the approaches for the 2020 Census are described below. These are not exhaustive but are meant to highlight areas where approaches for 2020 Census specifically strive to overcome some of the operational challenges encountered in the past. Further, we describe the potential program return on investment.

1. **Establishing early program integration and common vision setting, and aligning major program control points** - Development of the Strategic Plan early in the life cycle to guide subsequent plans and work. A full life cycle, integrated schedule, including a WBS, will link scope, budget, schedule, risk, acquisitions, and testing.
2. **Estimated costs better aligned with actual costs** - Use of a budget that incorporates successive approximation techniques for reduced uncertainty, and allowing for alternative cost estimates and greater precision the closer we get to 2020.
3. **Reduced contract risk and solutions to better meet actual program needs** - Adoption of an overall 2020 Census acquisition strategy for external contractor support that is fully integrated with the Department of Commerce's acquisition guidelines. This strategy will include sourcing process criteria to enforce and document in-house/out-source and build/buy decisions.
4. **Fewer and less severe risk events** - Initiation of risk management at the beginning of the planning cycle to mitigate risk early in the decennial census research and testing cycle and continued commitment to risk management throughout the life cycle.
5. **Better metrics for determining how the program is progressing across numerous projects** - Execute a performance management process, which includes resource-loaded schedules[1], for all projects in the program in order to illustrate how a project's performance is related to its specific problems, goals, and objectives.
6. **Increased efficiency, reduced costs, consistent quality, and reduced data collection timeline** – Focus on four Key Innovation Areas, apply innovations to other operations and study interaction of innovations, focus on quality impacts of innovations, and implement a cost effective integrated design.

[1] The 2020 Census Program is following the Enterprise-level lead in development of Earned Value Management (EVM); as a result, EVM will be part of subsequent life cycle phases but will not be part of 2020 R&T phase. Resource loaded schedules begins this process.

2.3 HIGH LEVEL QUESTIONS TO BE ANSWERED

Below are the major research questions from the *Business Plan for the 2020 Census* (Colosi, 2013) that were addressed during the research that occurred in the FY 2012-2015 timeframe. The answers to these questions and the more detailed research questions provided later in this document also provide a roadmap to complete the research in 2016-2018 that yields a 2020 Census final design that is innovative and reduces costs.

A. Expanded, Automated, and Tailored Contact Strategies and Self-Response: How do we leverage technology, variations in demographic and geographic response propensities, and new response modes to increase self-response?

B. **Reengineered Field Infrastructure:** How can we modernize and increase the efficiency and utility of our Field operational infrastructure?

C. **Reengineered IT Infrastructure:** How can we modernize and increase the efficiency and utility of our IT infrastructure, building enterprise shared services?

D. **Address Frame Updating:** Given the nature of the Address List Development process, which includes multiple inputs and a dynamic status, how will we determine the required level of quality needed in the address frame to conduct an accurate census and then measure the quality of the continually updated MAF for that purpose?

E. **Reduce Workloads and Increase Efficiency of Non-Response Operations:** How do we improve nonresponse followup data collection strategies and leverage administrative records (including commercial files) to significantly reduce decennial census enumeration cost while maintaining quality?

F. **General Design Questions**: If a greater number of response modes and administrative records are cornerstones of the 2020 Census design, will we be able to effectively unduplicate response data, deal with potential privacy and confidentiality concerns, adapt our design to specific areas or addresses, reduce paper, increase productivity in the field, and streamline operations?

Appendix A identifies the planned research projects (2012-2015) and their associated research tracks, as defined from the 2013 Business Plan (Colosi, 2013).

3.0 TESTS PLANNED

Table 2 lists the operational tests executed or planned for the 2020 Census. More details of each test can be found in Appendix D. Formal Test Plans were written as well to detail all the objectives, methods, and magnitude of each test, as appropriate.

TABLE 2: OPERATIONAL TESTS

Calendar Year	Test
2012	Public Opinion Polling (ongoing as needed) 2012 National Census Test
2013	2013 National Census Contact Test 2013 Census Test
2014	2014 Census Test Continuous Small-Scale testing (ongoing as needed) LUCA Focus Groups 2014 Human-in-the-Loop Test (aka SIMEX – Simulation Experiment)
2015	Address Validation Test (starts in late 2014) 2015 Optimizing Self-Response Test 2015 Census Test 2015 National Content Test
2016	MAF Coverage Study (includes production work) 2016 Census Test Address Canvassing Test
2017	MAF Coverage Study (includes production work) 2017 Census Test
2018	MAF Coverage Study (includes production work) 2018 Census End-to-End Test
2019	MAF Coverage Study (includes production work) Post End-to-End Testing

Tests may be added or deleted, as research project owners identify need, present the need through the 2020 Census governance boards, and receive investment commitment.

4.0 RESEARCH AND TESTING IMPLEMENTATION

Research objectives are organized around the standard Work Breakdown Structure for the 2020 Census:

1. Program Management,
2. Census/Survey Engineering,
3. Frame,
4. Response Data,
5. Publish Data,
6. Test and Evaluation, and
7. Infrastructure.

NOTE: The Census Bureau's standard WBS includes work for "Sample". Because the decennial census does not do sampling for the production decennial census, we have embedded this component of our design and implementation, when relevant, into the operations responsible for the sampling tasks for the program.

Research questions come from three basic sources: the FY 2012 and FY 2013 Business Plan (Colosi, 2013), objectives identified for specific tests, and the 2020 Census Operational Plan (DCMD, 2015). The mapping of questions from the FY13 Business Plan to this document is found in Appendix F.

A complete list of acronyms is included in Appendix G.

Identifiers for each research question (e.g., **SEI1**) are identifying the operation responsible (in the example referenced, the ID references **S**ystems **E**ngineering and **I**ntegration) and are numbered for reference purposes. Also, included in the research questions are references (e.g., C.d), back to the Business Plan from 2013 (Colosi, 2013). These identifiers link the current research agenda back to the original questions proposed in 2012 and 2013.

Resources typically refer to the teams that are contributing directly to the work to answer the question. See Appendix E for a list of the teams in the program[2].

Tests link the research question to a specific test or tests (see Section 3) that contribute to answering the question. Additional details of each test can be found in Appendix D.

Point-in-time **priority** indicators are assigned to each research question as follows:

H - High priority
M - Medium priority
L - Low priority

[2] Note, as the 2020 Census Program moves out of the Research and Testing phase, the "teams" and their membership are being updated. The lists provided in Appendix E represent a snapshot at the time of the publication of this report.

For each research question or objectives, high priority will be given to methodological studies early in the life cycle. These priorities will change over time as we progress to focus more on development and implementation of the production work.

For all objectives, the work will not be "complete" until final documentation of the project has been written, reviewed, and filed.

4.1 RESEARCH ON PROGRAM MANAGEMENT

None at this time.

4.2 RESEARCH ON CENSUS/SURVEY ENGINEERING

ID mapping to operations:

SEI is Systems Engineering and Integration.
SPC is Security, Privacy, and Confidentiality.
CFD is Content and Forms Design.
LNG is Language Services.

✓ **SPC1:** What is public opinion toward the Federal Statistical System?
Resources: R&M Directorate and Privacy and Confidentiality team
Test(s): Public Opinion Polling
Status: Ongoing
Completion: Initial report 01/13/2015 (Childs, 2015)
Priority: H

✓ **SPC2:** What are public opinions toward use of Administrative Records and third-party data?
Resources: Privacy and Confidentiality team
Tests: Public Opinion Polling, 2015 Census Test, and Optimizing Self-Response Focus Groups
Status: Ongoing
Completion: Initial report 01/13/2015 (Childs, 2015)
Priority: H

✓ **SPC3:** What are public opinions toward topics like Bring Your Own Device, contact methods, and response methods?
Resources: Privacy and Confidentiality team
Tests: Public Opinion Polling, 2015 National Content Test, and Optimizing Self-Response Focus Groups
Status: Ongoing
Completion: Initial report 01/13/2015 (Childs, 2015)
Priority: H

✓ **CFD1:** Explore different formats and content to email, text and automated voice invitations.
Resources: CFD IPT

Test(s): Small-scale Testing, 2015 Optimizing Self-Response Test, 2016 Census Test
Status: Ongoing
Completion: Initial report 01/13/2015 (Childs, 2015)
Priority: H

✓ **CFD2:** Evaluate the performance of combined race and origin questions on the Internet.

Resources: CFD IPT
Test(s): 2012 National Census Test and 2015 National Content Test
Status: Ongoing
Completion: Initial report 11/06/2014 (OSR R&T Team, 2014)
Priority: H

✓ **CFD3:** What are qualitative results from other tests not designed for content evaluations?

Resources: CFD IPT
Test(s): 2014 Census Test
Status: Ongoing
Completion: Initial report 07/24/2015 (OSR R&T Team, 2015)
Priority: H

□ **CFD4:** What are optimal designs of questionnaires (including size and page layout) and non-questionnaire materials for the 2020 Census?

Resources: CFD IPT
Test(s): 2015 National Content Test, field tests
Status: In analysis phase
Decision by: October 2017 (initial), August 2018 (Final)
Priority: H

□ **CFD5:** Evaluate and compare different census content on race/origin, relationship, and coverage. What are the final content topics for the 2020 Census?

Resources: CFD IPT
Test(s): 2012 National Census Test and 2015 National Content Test
Status: Initial report completed, additional work in analysis phase
Completion: Initial 11/06/2014 (OSR R&T Team, 2014)
Decision by: December 2016
Priority: H

□ **CFD6:** Measure accuracy of race/origin and coverage alternatives. What is the final questionnaire wording for the 2020 Census?

Resources: CFD IPT
Test(s): 2015 National Content Test
Status: In analysis phase
Decision by: April 2018
Priority: H

□ **CFD7:** What is the paper questionnaire layout for respondents living in residences other than households (e.g. group quarters and transitory locations)?

Resources: CFD IPT
Test(s): 2016 and 2017 Census Tests
Status: Planning
Decision by: September 2017
Priority: M

☐ **CFD8:** Will the Census Bureau add a question related to tribal enrollment?
Resources:
Test(s): Center for Survey Methods qualitative work in 2015-2016 and 2017 Census Test
Status: Planning
Decision by: October 2017
Priority: M

☐ **LNG1:** What are the number of non-English languages and level of support needed for the 2020 Census?
Resources: LNG IPT
Test(s): 2016 and 2017 Census Tests
Status: Planning
Decision by: September 2017
Priority: H

☐ **LNG2:** Can we deliver data collection instruments that cognitively work on small devices and in multiple languages (C.k)?
Resources: LNG IPT, ITIN IPT, SEI IPT
Test(s): 2016 and 2017 Census Tests
Status: Planning
Decision by: September 2017
Priority: H

4.3 RESEARCH ON FRAME DEVELOPMENT METHODS

ID mapping to operations:
GEOP is Geographic Programs.
LUCA is Local Update of Census Addresses.
ADC is Address Canvassing.

☐ **GEOP1:** Will there be a separate New Construction Program or will the GSS-I program continue to collect new construction addresses for the 2020 Census?
Resources: Geographic Programs IPT
Test(s): None planned
Status: Under development
Decided by: August 2017
Priority: L

☐ **GEOP2:** What Types of Enumeration Areas (TEA) are required for the 2020 Census?
Resources: Geographic Programs IPT
Test(s): 2016 Address Canvassing Test and 2017 Census Test

Status: Planned
Decided by: October 2017
Priority: H

□ **GEOP3:** How can we improve methods of processing address data (D.j)?
Resources: Geographic Programs IPT
Test(s): None
Status: Planned
Decided by: Under development
Priority: L

✓ **LUCA1:** What changes in methods help increase participation and coverage, while decreasing program costs for the 2020 Census LUCA Program?
Resources: LUCA IPT
Test(s): LUCA focus groups
Status: *Complete*
Completion: 4/13/2015 (LUCA R&T Team, 2015)
Priority: M

✓ **LUCA2:** How can we improve the quality of address updates for the 2020 Census LUCA Program?
Resources: LUCA IPT
Test(s): LUCA focus groups
Status: *Complete*
Completion: 4/13/2015 (LUCA R&T Team, 2015)
Priority: H

□ **LUCA3:** What is the 2020 Census LUCA Appeals process?
Resources: OMB, Address Canvassing IPT, LUCA IPT
Test(s): None planned
Status: Under development
Decided by: October 2016
Priority: M

✓ **LUCA4:** How will we validate address data submitted by LUCA participants? To what extent can administrative records and third-party data be used to validate addresses submitted by LUCA participants?
Resources: LUCA IPT, Address Canvassing IPT
Test(s): None planned
Status: *Complete*
Decided by: December 2015 (ADC R&T Team, 2015)
Priority: H

✓ **ADC1:** What is the most cost efficient business process to maintain the address list? How should we reengineer the Address Canvassing operation?
Resources: Reengineering Address Canvassing R&T Team
Test(s): Address Validation Test
Status: *Complete*
Completion: December 2015 (ADC R&T Team, 2015)

Priority: H

✓ **ADC2:** Can In-Office methods to maintain and update the address list accurately replace In-Field methods?
Resources: Reengineering Address Canvassing R&T Team
Test(s): Address Validation Test
Status: *Complete*
Completion: December 2015 (ADC R&T Team, 2015)
Priority: H

✓ **ADC3:** How can we measure, track, and ensure the accuracy of the Master Address File? To what extent can we build a usable statistical model of MAF errors, error components, and their magnitude (D.f)? How will we use the statistical MAF error model and an independent team to measure the quality of the MAF (D.g)? Does the quality of the MAF meet 2020 Census requirements (D.h)?
Resources: DCMD, DSSD, MAF Coverage Study Sub-IPT, Reengineering Address Canvassing R&T Team
Test(s): Address Validation Test
Status: *Complete*
Completion: December 2015 (ADC R&T Team, 2015)
Priority: M

✓ **ADC4:** What components of the reengineered Address Canvassing are worth pursuing? Can statistical models inform MAF error?
Resources: Reengineering Address Canvassing R&T Team
Test(s): Address Validation Test
Status: *Complete*
Completion: December 2015 (ADC R&T Team, 2015)
Priority: H

✓ **ADC5:** How effective is micro-targeting (Partial Block Canvassing) and use of aerial imagery? Can we effectively navigate to a targeted portion of the block using locational information produced based on in-office review of imagery?
Resources: Reengineering Address Canvassing R&T Team
Test(s): Address Validation Test
Status: *Complete*
Completion: December 2015 (ADC R&T Team, 2015)
Priority: H

✓ **ADC6:** What are the coverage implications comparing full block canvass and partial block canvass?
Resources: Reengineering Address Canvassing R&T Team
Test(s): Address Validation Test
Status: *Complete*
Completion: December 2015 (ADC R&T Team, 2015)
Priority: M

□ **ADC7:** What are the expected production rates for the Reengineered Address Canvassing (D.b, D.d, D.e)? By component? Is Partial Block Canvassing (PBC) more cost-effective than Full Block Canvassing? Discontiguous blocks?

Resources: Reengineering Address Canvassing R&T Team, Address Canvassing IPT, ROCkIT Team, Budget Sub-Team
Test(s): 2015 Address Validation Test, 2016 MAF Coverage Study and 2016 Address Canvassing Test
Status: Planned
Completion: PBC Completed (AVT Team, 2015) January 2017
Priority: H

✓ **ADC8:** What are potential issues affecting ability to conduct fieldwork and collect accurate information? Is imagery required in the field? What other tools/data are needed in the field? Should updates other than those specified be collected? How do we limit the scope of work once in the field?

Resources: Reengineering Address Canvassing R&T Team
Test(s): Address Validation Test
Status: *Complete*
Completion: December 2015 (ADC R&T Team, 2015)
Priority: M

□ **ADC9:** How will the field reengineering concepts tested for NRFU be used for In-Field Address Canvassing?

Resources: Address Canvassing IPT, ROCkIT Team
Test(s): 2016 Address Canvassing Test
Status: Planned
Decision by: January 2017
Priority: M

□ **ADC10:** How will Quality Assurance be handled?

Resources: Address Canvassing IPT, DSSD
Test(s): 2016 MAF Coverage Study, 2016 Address Canvassing Test
Status: Planned
Decision by: January 2017
Priority: H

□ **ADC11:** What are the business processes for handling Transitory Locations during Address Canvassing?

Resources: Address Canvassing IPT
Test(s): 2016 Address Canvassing Test
Status: Planned
Decision by: January 2017
Priority: L

□ **ADC12:** Will the Census Bureau be able to meet the 25 percent In-Field Address Canvassing goal without sacrificing quality?

Resources: Reengineering Address Canvassing R&T Team, GSSI, Address Canvassing IPT, MAF Coverage Study Sub-Team
Test(s): 2016 MAF Coverage Study and 2016 Address Canvassing Test

Status: Planned
Decision by: January 2017
Priority: H

☐ **ADC13:** How will ungeocoded addresses be resolved as part of Address Canvassing?
Resources: Address Canvassing IPT
Test(s): 2016 Address Canvassing Test
Status: Planned
Decision by: March 2017
Priority: H

☐ **ADC14:** What feature data, if any, should be collected during an In-Field Address Canvassing? What is the business process to meet spatial accuracy requirements for capturing features and living quarter coordinates during In-Field Address Canvassing if the devices are unable to meet these requirements?
Resources: Address Canvassing IPT
Test(s): 2016 MAF Coverage Study and 2016 Address Canvassing Test
Status: Planned
Decision by: March 2017
Priority: H

☐ **ADC15:** What is the expected quality (coverage) yield for the reengineered Address Canvassing, including all components?
Resources: Address Canvassing IPT, Quality Analysis IPT
Test(s): 2016 MAF Coverage Study and 2016 Address Canvassing Test
Status: Planned
Decision by: March 2017
Priority: H

4.4 RESEARCH ON RESPONSE METHODS

ID mapping to operations:
FPD is Forms Printing and Distribution. (none at this time)
PDC is Paper Data Capture. (none at this time)
IPC is Integrated Partnerships and Communication.
ICC is Integrated Communications Contract.
ISR is Internet Self Response.
NID is Non-ID Processing.
UE is Update Enumerate.
GQ is Group Quarters.
ETL is Enumeration at Transitory Locations.
NRFU is Nonresponse Followup.
FAA is Federally Affiliated Americans Count Overseas. (none at this time)
CQA is Census Questionnaire Assistance.
RPO is Response Processing. (none at this time)

☐ **IPC1:** What are the components and materials required for implementing the IPC? What is the timing of each component?

Resources: Census will work with IPC IPT and ICC operation contractor, IPC IPT
Test(s): None
Status: Contract in process
Decision by: March 2017
Priority: H

☐ **IPC2:** What metrics will be used to evaluate the success of the ICP as well as each individual component? Micro-targeted digital advertising? Automated telephone messaging by local influencers? Providing donated thank you incentives to respondents? Social media? Email? Audience segmentation models?

Resources: Independent Evaluation Contract, IPC IPT
Test(s): None
Status: Contract in process
Decision by: April 2017
Priority: H

☐ **IPC3:** What is the expected return on investment break point for each component of the IPC operation?

Resources: IPC IPT
Test(s): 2018 End-to End Test
Status: Will be addressed after contract is awarded
Decision by: September 2018
Priority: H

✓ **ISR1:** What are the self-response rates and Internet self-response rates across various contact strategies (A.a, A.b)? What are the response rate projections for all self-response modes?

Resources: Optimizing Self-Response R&T Team, ISR IPT
Test(s): 2012 National Census Test, 2015 Census Test, 2015 Optimizing Self-Response Test, 2015 National Content Test, 2016 Census Test, 2017 Census Test, and 2018 End-to-End Test
Status: Initial report completed, Results updated through test and research report(s) release(s)
Completion: Initial report 11/06/2014 (OSR R&T Team, 2014)
Decision by: October 2017
Priority: H

✓ **ISR2:** What are the impacts on self-response rates when utilizing an internet push methodology?

Resources: Optimizing Self-Response R&T Team, ISR IPT
Test(s): 2012 National Census Test, 2014 Census Test, 2015 Census Test, 2015 Optimizing Self-Response Test, 2015 Census Test, 2016 Census Test, and 2017 Census Test
Status: Initial report completed, Results updated through test and research report(s) release(s)
Completion: Initial report 11/06/2014 (OSR R&T Team, 2014)

Priority: H

✓ **ISR3:** What is the quality of the phone and email contact information acquired from commercial sources?
Resources: Optimizing Self-Response R&T Team, Contact Frame R&T Team, ISR IPT
Test(s): 2012 National Content Test, 2013 National Census Contact Test, 2015 Census Test, 2015 National Content Test, 2016 Census Test, and small scale testing
Status: Initial report completed, ongoing
Completion: Initial report 09/18/2014 (CF R&T Team, 2014)
Priority: H

✓ **ISR4:** How does early engagement of respondents ("Notify Me"[3]) impact self-response generally?
Resources: Optimizing Self-Response R&T Team, ISR IPT
Test(s): 2014 Census Test, 2015 Optimizing Self-Response Test, 2015 Census Test
Status: Draft report under review
Completion: 07/24/2015 (OSR R&T Team, 2015)
Priority: H

✓ **ISR5:** How do respondents react to email invitations? How do pre-notices (letters and automated voice) used to introduce and legitimize email contacts impact respondents?
Resources: Optimizing Self-Response R&T Team, ISR IPT
Test(s): 2014 Census Test, 2015 Optimizing Self-Response Test
Status: Ongoing
Completion: Initial report 07/24/2015 (OSR R&T Team, 2015)
Priority: H

□ **ISR6:** How can different communication strategies affect self-response? Digital advertising methods? "Notify Me" paired with advertising?
Resources: Optimizing Self-Response R&T Team, ISR IPT
Test(s): 2015 Optimizing Self-Response Test
Status: Draft report in review
Completion: February 2016 (OSR R&T Team, 2016)
Priority: H

□ **ISR7:** How much can we improve the usability and respondent experience with internet response functionality? Mobile-optimized application? Encouraging responses without a Census ID?
Resources: Optimizing Self-Response R&T Team, ISR IPT
Test(s): 2015 Optimizing Self-Response Test, 2015 Census Test, 2015 National Content Test, and 2016 Census Test

[3] "Notify Me" is an approach that was proposed and tested in the Research and Testing period. "Notify Me" provided respondents with a pre-registration website that collected contact information and preferences from respondents on how they would like to participate in the Census.

Status: Draft report in review
Completion: February 2016 (OSR R&T Team, 2016)
Priority: H

☐ **ISR8:** Will the Census Bureau provide a mobile application for Internet Self-Response?

Resources: Optimizing Self-Response R&T Team, ISR IPT
Test(s): No test planned
Status: Decision based on technical research and cost/benefit analysis
Decision by: January 2016
Priority: M

☐ **ISR9:** What is the optimal combination of individual (e.g., housing unit) level contact strategies used in 2020 and how will these be tailored based on demographic and geographic areas? Which modes are most usable by which demographic, language, and geographic groups (A.f)?

Resources: Optimizing Self-Response R&T Team, ISR IPT
Test(s): 2014, 2015, and 2016 Census Tests
Status: Planned
Decision by: October 2016
Priority: M

☐ **ISR10:** What type of Internet form design will facilitate high quality self-response data collection in Group Quarters?

Resources: Optimizing Self-Response R&T Team, CFD IPT, ISR IPT
Test(s): 2016 and 2017 Census Tests
Status: Planning
Decision by: October 2017
Priority: M

☐ **ISR11:** What are the benefits and risks associated with using the Census contact frame to reach respondents via email and text messages?

Resources: Contact Frame R&T Team, 2020 Integrated Communications design, ISR IPT
Test(s): 2012 National Content Test, 2014 Census Test, 2015 Optimizing Self-Response Test, 2016 Census Test, 2017 Census Tests, Small scale testing
Status: Planned
Decision by: October 2017
Priority: H

✓ **NID1:** Can we effectively automate the processing of census responses lacking a preassigned census identification number?

Resources: NID R&T Team, NID IPT
Test(s): 2013 National Census Contact Test, 2014 Census Test, 2015 Optimizing Self-Response Test, 2015 Census Test, 2015 National Content Test, and 2016 Census Test
Status: Draft Completed, ongoing
Completion: Draft 09/16/2013 (NID R&T Team, 2013)

Priority: H

✓ **NID2:** What is the most effective process by mode for materials and real-time processing for Non-ID responses?
Resources: NID R&T Team, NID IPT
Test(s): 2014 Census Test, 2015 Optimizing Self-Response Test, 2015 Census Test, 2015 National Content Test, and 2016 Census Test
Status: Ongoing
Completion: Initial report 07/24/2015 (OSR R&T Team, 2015)
Priority: H

✓ **NID3:** What methodology will be used to conduct Non-ID response validation?
Resources: NID R&T Team, NID IPT
Test(s): 2014, 2015, 2016, 2017, and 2018 Census Tests
Status: Draft report in review, additional research planned
Completion: February 2016 (OSR R&T Team, 2016) (RIPF R&T Team, 2016)
Decision by: September 2016 (initial), (final) in 2018
Priority: H

□ **NID4:** How can Non-ID respondents help confirm the location of their living quarters?
Resources: Carnegie Mellon research, NID R&T Team, NID IPT
Test(s): 2015 Optimizing Self-Response Test and 2016 Census Test
Status: Draft report in review, planned
Completion: February 2016 (OSR R&T Team, 2016)
Decision by: September 2016 (initial), (final) in 2018
Priority: M

✓ **NID5:** At what proportion did office resolution confirm the existence and location of nonmatching addresses?
Resources: NID R&T Team, NID IPT
Test(s): 2014, 2015, 2016 and 2017 Census Tests
Status: Draft report in review, additional research planned
Completion: 07/24/2015 (OSR R&T Team, 2015) February 2016 (OSR R&T Team, 2016)
Decision by: September 2017
Priority: H

□ **NID6:** What is the expected scale of the 2020 Non-ID workload?
Resources: NID R&T Team, External Demand Modeling IPT, NID IPT
Test(s): 2016 and 2017 Census Tests, as well as the 2018 End-to-End Test
Status: Initial model available September 2015, updates planned annually
Decision by: September 2018
Priority: H

□ **NID7:** If the proportion of Non-ID responses increases in 2020, can the Census Bureau accommodate the corresponding increase in workload for downstream

operations such as manual matching and geocoding or address verification (office and field-based)?

Resources: NRFU R&T Team, NID R&T Team, NID IPT, External Demand Modeling IPT
Test(s): 2016 Census Test, 2017 Census Test, and 2018 Census End-to-End Test
Status: Cross reference with NRFU13, planned
Decision by: September 2018
Priority: H

☐ **NID8:** How will Administrative Records and third-party data be used to improve matching in Non-ID Processing?

Resources: Administrative Records Fitness for Use R&T Team, NID R&T Team, NID IPT
Test(s): 2014, 2015, 2016 and 2017 Census Tests
Status: Draft report in review, additional research planned
Completion: 07/24/2015 (OSR R&T Team, 2015) February 2016 (OSR R&T Team, 2016)
Decision by: Ongoing up to 2020
Priority: H

☐ **UE1:** What actions are taken on the address list at the time of update (i.e., moves across block or into a different Type of Enumeration Area)?

Resources: UE IPT
Test(s): 2017 Census Test
Status: Baseline decision to be tested in 2017 Census Test
Decision by: June 2016
Priority: H

☐ **UE2:** Does the UE operation enumerate group quarters or are they provided to a different 2020 Census operation for enumeration? Transitory Locations? What automation instruments are needed?

Resources: UE IPT, GQ IPT, ETL IPT
Test(s): 2017 Census Test
Status: Baseline decision to be tested in 2017 Census Test
Decision by: Enumeration June 2016, Instruments December 2015
Priority: M

☐ **UE3:** How will Remote Alaska be handled?

Resources: UE IPT
Test(s): None
Status: No research planned
Decision by: December 2017
Priority: L

☐ **UE4:** How are Census IDs from the address list associated with or linked to the notice of visit forms? How are Census IDs generated or assigned to newly identified units not found on the address list?

Resources: UE IPT

Test(s): 2017 Census Test
Status: Baseline decision to be tested in 2017 Census Test
Decision by: Initial decision December 2015
Priority: H

☐ **UE5:** What is the Update Enumerate contact strategy through mail? Paper questionnaires? Telephone? Number of visits? Time of day? Leaving invitation or notice of visit? Cost benefit of one visit?
Resources: UE IPT
Test(s): 2017 Census Test
Status: Planning
Decision by: October 2017 (Mail and Paper – March 2016)
Priority: H

☐ **UE6:** Can administrative records and third-party data be used to validate units in QC?
Resources: UE IPT
Test(s): 2017 Census Test
Status: Planning
Decision by: October 2017
Priority: M

☐ **GQ1:** What varying computing capabilities and multiple formats for administrative records and third-party data can be integrated into a standardized Census Bureau system for processing?
Resources: GQ IPT
Test(s): No test planned
Status: Planning
Decision by: June 2016
Priority: H

☐ **GQ2:** What is the optimal linkage methodology to ensure self-response data are linked to the correct Group Quarters?
Resources: GQ IPT
Test(s): 2017 Census Test
Status: Planning
Decision by: October 2017
Priority: H

☐ **GQ3:** How much in-field Group Quarters enumeration will be required?
Resources: GQ IPT
Test(s): 2017 Census Test
Status: Planning
Decision by: December 2017
Priority: H

☐ **GQ4:** How will quality assurance be handled?
Resources: GQ IPT, DSSD
Test(s): 2017 Census Test

Status: Planning
Decision by: December 2017
Priority: H

☐ **GQ5:** How will field reengineering concepts be used for integrating Group Quarters with multiple housing unit enumeration operations (e.g., Nonresponse Followup and Update Enumerate)?
Resources: GQ IPT, ROCkIT Team
Test(s): 2017 Census Test
Status: Planning
Decision by: December 2017
Priority: M

☐ **GQ6:** What is the impact on quality and productivity of field staff if they are required to conduct multiple operations?
Resources: GQ IPT
Test(s): 2017 Census Test
Status: Planning
Decision by: December 2017
Priority: H

☐ **ETL1:** What are the objectives and scope of the 2020 Census Enumeration at Transitory Locations Program? What does success for the 2020 Census Enumeration at Transitory Locations Program look like and how is it measured?
Resources: ETL IPT
Test(s): No test planned
Status: Planning
Decision by: September 2017
Priority: L

☐ **ETL2:** What is the impact of self-response via the internet and Non-ID processing on ETL?
Resources: ETL IPT
Test(s): No test planned
Status: Planning
Decision by: September 2017
Priority: L

☐ **ETL3:** What will the quality assurance approach for the Enumeration at Transitory Location Program involve (in-field, use of paradata, etc.)?
Resources: ETL IPT
Test(s): No test planned
Status: Planning
Decision by: September 2017
Priority: L

✓ **CQA1:** What are the expected Census Questionnaire Assistance (CQA) telephone workloads?
Resources: CQA IPT, External Demand Modeling IPT

Test(s): 2012 National Census Test, 2014 Census Test, 2015 Optimizing Self-Response Test, 2015 Census Test, 2015 National Content Test, and 2016 Census Test
Status: Initial report completed, annual updates planned
Completion: 11/06/2014 (OSR R&T Team, 2014)
Priority: H

✓ **CQA2:** What are the CQA telephone reasons for calls?
Resources: CQA IPT
Test(s): 2012 National Census Test, 2014 Census Test, 2015 Optimizing Self-Response Test, 2015 Census Test, 2015 National Content Test, and 2016 Census Test
Status: Initial report completed, assessment ongoing
Completion: March 2019; Initial report completed 11/06/2014 (OSR R&T Team, 2014)
Priority: H

□ **CQA3:** Will the 2020 CQA utilize Interactive Voice Response (IVR) as a data collection mode (full or partial) to complete questionnaire items?
Resources: CQA IPT
Test(s): No test planned
Status: In analysis phase
Decision by: April 2016
Priority: M

□ **CQA4:** Will CQA include a Quality Outbound Operation?
Resources: CQA IPT, NRFU IPT
Test(s): TBD
Status: Planning
Decision by: September 2017
Priority: H

□ **CQA5:** Will CQA handle centralized outbound calling for Nonresponse Followup quality assurance component?
Resources: CQA IPT, NRFU IPT
Test(s): 2016 Census Test
Status: Planned
Decision by: September 2016
Priority: H

□ **CQA6:** Will CQA take calls to support field enumerators who are having language issues? What languages will be supported by the CQA?
Resources: LNG IPT, CQA IPT, NRFU IPT
Test(s): 2014-2017 Census Tests
Status: Planned
Decision by: June 2016 (Field enumerators - January 2018)
Priority: H

□ **CQA7:** When and how will the CQA as a response mode be communicated to the public?

Resources: Integrated Partnership and Communications, CQA IPT
Test(s): No test planned
Status: Will be addressed after contract is awarded
Decision by: September 2018
Priority: H

□ **CQA8:** When do CQA operations start and end? By component?

Resources: CQA IPT, ISR IPT, IPC IPT, NRFU IPT, UE IPT
Test(s): 2017 Census Test
Status: Not planned
Decision by: January 2018
Priority: M

□ **CQA9:** What is the impact of the mailing strategy on CQA workload?

Resources: ISR IPT, CQA IPT, External Demand Modeling IPT
Test(s): 2015 Census Test, 2016 Census Test, and 2017 Census Test
Status: Planned
Decision by: November 2017
Priority: H

□ **CQA10:** How will web chat be utilized during self-response on the internet?

Resources: ISR IPT, CQA IPT
Test(s): TBD
Status: Planning
Decision by: September 2017
Priority: H

✓ **NRFU1:** Can we use administrative records and third-party data to enumerate some non-responding housing units? Identify and remove vacant units from NRFU workload? What is the final set of administrative records and third-party (including state-level data sources) that are necessary to support the 2020 Census Nonresponse Followup operation? How much of the non-response workload can be successfully removed from fieldwork using Administrative Records (E.d)?

Resources: Administrative Records Fitness for Use R&T Team, Administrative Records Modeling Team, NRFU R&T Team, NRFU IPT
Test(s): 2013, 2014, 2015, 2016, 2017, and 2018 Census Test
Status: Completed (preliminary), ongoing
Completion: Initial report (DCMD, 2015)
Decision by: September 2018 (final)
Priority: H

✓ **NRFU2:** Can we use an adaptive design approach for cases not enumerated with administrative records and third-party data? Compare to fixed enumeration approach? Reduce number of contact attempts? What is the final approach for the use of variable contact strategies and stopping rules to balance the goal of reducing the number of attempts against having consistent response rates across demographic groups and geographic area?

Resources: CAD, NRFU R&T Team, NRFU IPT
Test(s): 2013, 2014, 2015, and 2016 Census Tests
Status: Completed (preliminary)
Completion: Initial report (DCMD, 2015)
Decision by: September 2016 (final)
Priority: H

□ **NRFU3:** How can we use telephone methods to enumerate non-respondents? Should decentralized telephoning (i.e., attempts made by an enumerator) and appointments be incorporated into the nonresponse followup contact strategy?
Resources: NRFU R&T Team, ROCkIT, CQA IPT, NRFU IPT
Test(s): 2013 Census Test and 2016 Census Test
Status: Completed (preliminary)
Completion: Initial report (DCMD, 2015)
Decision by: September 2016 (final)
Priority: H

□ **NRFU4:** What are the optimal staff-to-supervisor ratios? Enumerator to LSO? LSO to FMO? What is the field management staffing structure (including staffing ratios) for the Nonresponse Followup operation?
Resources: NRFFU R&T Team, FLDI IPT, ROCkIT, NRFU IPT
Test(s): 2014 SIMEX Test, 2015- 2016 Census Tests, Possibly 2017 Census Test
Status: Completed (preliminary)
Completion: December 31, 2014 (SIMEX R&T Team, 2014)
Decision by: September 2016 (final)
Priority: H

✓ **NRFU5:** What is required of the automated operational control system (MOJO) as it pertains to the FMO/LSO management of staff, response data, and payroll data in an operational setting?
Resources: NRFFU R&T Team, FLDI IPT, ROCkIT, NRFU IPT
Test(s): 2014 SIMEX Test
Status: Completed
Completion: December 31, 2014 (SIMEX R&T Team, 2014)
Priority: H

✓ **NRFU6:** What are the FMO and LSO responsibilities and duties for the NRFU operation?
Resources: NRFFU R&T Team, FLDI IPT, ROCkIT, NRFU IPT
Test(s): 2014 SIMEX Test
Status: Completed
Completion: December 31, 2014 (SIMEX R&T Team, 2014)
Priority: H

✓ **NRFU7:** Are the training materials effective for the FMO and LSO roles?
Resources: NRFFU R&T Team, FLDI IPT, ROCkIT, NRFU IPT
Test(s): 2014 SIMEX Test
Status: Completed

Completion: December 31, 2014 (SIMEX R&T Team, 2014)
Priority: H

✓ **NRFU8:** How can we fully utilize a field operations management system that leverages planned automation and available real-time data, as well as data households have already provided to the government, to transform the efficiency and effectiveness of data collection operations?

Resources: NRFFU R&T Team, FLDI IPT, ROCkIT, NRFU IPT, NID IPT
Test(s): 2015 Census Test
Status: Draft report under review
Completion: February 2016 (RIPF R&T Team, 2016)
Priority: H

☐ **NRFU9:** To what extent can we minimize the error associated with use of administrative records and third-party data for the removal of vacants and occupied housing units?

Resources: Administrative Records Fitness for Use R&T Team, Administrative Records Modeling Team, NRFU R&T Team, NRFU IPT
Test(s): 2013, 2014, 2015, and 2016 Census Tests
Status: Planned
Decision by: September 2016
Priority: H

☐ **NRFU10:** Will statistical modeling, a rules-based approach, or a combination be used for determination of housing unit status?

Resources: Administrative Records Fitness for Use R&T Team, Administrative Records Modeling Team, NRFU R&T Team, NRFU IPT
Test(s): 2013, 2014, 2015, and 2016 Census Tests
Status: Planned
Decision by: September 2016
Priority: H

☐ **NRFU11:** When are proxy responses used in the Nonresponse Followup operation?

Resources: Administrative Records Modeling Team, NRFU R&T Team, NRFU IPT
Test(s): 2014, 2015, and 2016 Census Tests
Status: Planned
Decision by: September 2016
Priority: H

☐ **NRFU12:** What is the best approach for coordinating enumeration of nonresponding addresses in multi-units and gated communities?

Resources: FLDI IPT, NRFU IPT
Test(s): 2016 Census Test
Status: Planned
Decision by: September 2016
Priority: H

☐ **NRFU13:** How will any field verification of unmatched but geocoded Non-ID response be integrated into the NRFU operation?

Resources: NID IPT, NRFU IPT
Test(s): 2017 Census Test
Status: Planning
Decision by: September 2017
Priority: H

☐ **NRFU14:** Given potential for infusing quality throughout the nonresponse followup systems and procedures, what is the operational design for the NRFU quality assurance component?

Resources: NRFU IPT, DSSD
Test(s): 2016 and 2017 Census Tests
Status: Planning
Decision by: September 2017
Priority: H

☐ **NRFU15:** To what extent and how will vacant addresses and addresses found to not exist, discovered during the in-field nonresponse followup, be verified?

Resources: NRFU IPT, Quality Analysis Team, DSSD
Test(s): 2017 Census Test
Status: Planning
Decision by: September 2017
Priority: H

☐ **NRFU16:** To what extent and how can a last-resort data collection be implemented within the controlled environment that exists with the reengineered workload optimization and management capabilities?

Resources: NRFU R&T Team, NRFU IPT
Test(s): 2017 Census Test
Status: Planning
Decision by: September 2017
Priority: H

☐ **NRFU17:** Will fieldworkers enumerate adds found during nonresponse followup and if so, how does the Census Bureau incorporate real-time Non-ID into the process?

Resources: NID R&T Team, NRFU R&T Team, NID IPT, NRFU IPT
Test(s): 2017 Census Test
Status: Planning
Decision by: September 2017
Priority: H

☐ **NRFU18:** What are the business rules for optimizing case assignments? What should the contact strategy be in terms of modes and timing for household follow-up (E.b)?

Resources: ITIN IPT, ROCkIT, NRFU R&T Team, NRFU IPT
Test(s): 2015, 2016, and 2017 Census Tests
Status: Planning

Decision by: September 2017
Priority: H

☐ **NRFU19:** Given other aspects of the 2020 Census operational design, what is the operational timing for the 2020 Census Nonresponse Followup operation?
Resources: NRFU IPT
Test(s): No test planned
Status: Under development
Decision by: September 2017
Priority: H

☐ **NRFU20:** What are the sources that contribute to the Nonresponse Followup universe (e.g., LUCA Appeals, late DSF adds, non-responding Update Enumerate addresses, etc.)?
Resources: LUCA IPT, GEOP IPT, UE IPT, NRFU IPT
Test(s): No test planned
Status: Under development
Decision by: September 2017
Priority: H

☐ **NRFU21:** What is the expected Nonresponse Followup workload (E.c)?
Resources: External Demand Modeling Team, NRFU R&T Team, NRFU IPT
Test(s): Each test contributes to models
Status: Initial estimates completed, annual updates planned
Decision by: September 2017
Priority: H

☐ **NRFU22:** What are the best enumerator performance indicators? What are the production rates for non-response cases taking into account the use of Administrative Records, adaptive design, and reengineered field (E.e)?
Resources: NRFU QC Sub-Team, ROCkIT, NRFU R&T Team, NRFU IPT, Budget Sub-Team
Test(s): No test planned
Status: Under development
Decision by: September 2017
Priority: H

4.5 RESEARCH ON PUBLISHING DATA

ID mapping to operations:
DPD is Data Products and Dissemination. (none at this time)
RDP is Redistricting Data Program. (none at this time)
CRO is Count Review.
CQR is Count Questions Resolution.
ARC is Archiving. (none at this time)

☐ **CRO1:** What are the objectives, scope, and operational timeline of the 2020 Census Count Review Program?

Resources: CRO IPT
Test(s): No test planned
Status: Unfunded through Fiscal Year 2015
Decision by: September 2017
Priority: L

☐ **CQR1:** What are the objectives, scope, and operational timeline of the 2020 Census Count Questions Resolution operation?

Resources: CQR IPT
Test(s): No test planned
Status: Unfunded through Fiscal Year 2015
Decision by: September 2019
Priority: L

4.6 RESEARCH ON TEST, EVALUATION, AND UNIQUE OPERATIONS

ID mapping to operations:

CMDE is Coverage Measurement Design and Estimation.
CMM is Coverage Measurement Matching. (none at this time)
CMFO is Coverage Measurement Field Operations.
IA is Island Areas Enumeration
EAE is Evaluations and Experiments. (none at this time)

☐ **CMDE1:** How can vital statistics be better used, or combined with other data sources to improve the DA estimates by age and sex, and to better estimate or expand the race and Hispanic origin categories for which the DA estimates are produced?

Resources: CM IPT
Test(s): No test planned
Status: Unfunded through Fiscal Year 2015
Decision by: September 2016
Priority: M

☐ **CMDE2:** What are the objectives, scope, and operational timeline of the 2020 Census Coverage Measurement program?

Resources: CM IPT
Test(s): No test planned
Status: Unfunded through Fiscal Year 2015
Decision by: September 2018
Priority: H

☐ **CMFO1:** Will the CCM person data collection instruments need a larger Form-Factor (possibly a tablet) for automated instruments instead of a smartphone?

Resources: CM IPT
Test(s): No test planned
Status: Unfunded through Fiscal Year 2015
Decision by: September 2016
Priority: M

□ **CMFO2:** Will there be an additional telephone operation that is needed before the CCM Person Interview?

Resources: CM IPT
Test(s): No test planned
Status: Unfunded through Fiscal Year 2015
Decision by: September 2016
Priority: M

□ **IA1:** What are the objectives, scope, methods, and operational timeline of the 2020 Census Island Areas Enumeration operation?

Resources: IA IPT
Test(s): No test planned
Status: Unfunded through Fiscal Year 2015
Decision by: Varies
Priority: L

4.7 RESEARCH ON INFRASTRUCTURE (FIELD AND IT)

ID mapping to operations:

DSC is Decennial Service Center.
FLDI is Field Infrastructure.
DLM is Decennial Logistics Management.
ITIN is IT Infrastructure.

□ **DSC1:** How do alternatives to Government Furnished Equipment impact Help Desk Support?

Resources: DSC IPT, ITIN IPT
Test(s): 2014, 2015 and 2016 Census Tests
Status: Related to ITIN4, Baselined and updated annually based on tests
Decision by: January 2017
Priority: H

□ **DSC2:** What is the optimal service center staffing structure for the 2020 Census? Centralized or decentralized? Optimal staff ratios? Type of technical support needed in local field offices? Impact on services rendered of the number of field offices that are deployed, and number of field staff hired? Impact on services rendered of using wireless connectivity in the field offices?

Resources: DSC IPT
Test(s): 2014, 2015, 2016, and 2017 Census Tests
Status: Baselined and planned to be updated annually based on tests
Decision by: January 2017
Priority: H

□ **DSC3:** What methods will be available for contacting the Service Center (e.g., live online chat, texting, smartphone applications, etc.)?

Resources: DSC IPT
Test(s): 2014, 2015, 2016, and 2017 Census Tests
Status: Baselined and updated annually based on tests

Decision by: January 2017
Priority: H

✓ **FLDI1:** How many early local census offices (ELCO), local census offices (LCO), and regional census centers (RCC) are required to support field operations (B.a)? Where will the field offices be located?
Resources: Field Infrastructure IPT
Test(s): Based on workload estimates
Status: Complete
Completion: October 2015 (DCMD, 2015)
Decision by: for location - January 2017
Priority: H

✓ **FLDI2:** What staff positions are required in the ELCOs/LCOs to support address listing and field enumeration (B.b)?
Resources: Field Infrastructure IPT, ROCkIT Team
Test(s): 2014 SIMEX and 2015 Census Test
Status: Complete (preliminary)
Completion: December 31, 2014 (SIMEX R&T Team, 2014)
Priority: H

✓ **FLDI3:** How can we effectively automate and streamline field operations to take advantage of changes in design and technology in response and non-response follow-up data collection modes (B.h)?
Resources: Field Infrastructure IPT, ROCkIT Team
Test(s): 2014 SIMEX and 2015 Census Test
Status: Complete (preliminary)
Completion: December 31, 2014 (SIMEX R&T Team, 2014)
Priority: H

✓ **FLDI4:** How can we improve the efficiency of training field staff to better utilize advanced training techniques to get better data at lower costs (B.l)? How does automated training impact subject retention by enumerators (B.d)? How does automated training impact the infrastructure (B.e)?
Resources: Field Infrastructure IPT, ROCkIT Team
Test(s): 2014 SIMEX and 2015 Census Test
Status: Complete (preliminary)
Completion: December 31, 2014 (SIMEX R&T Team, 2014)
Priority: H

□ **FLDI5:** What is the approach for the recruiting and onboarding process? What policies and procedures need to be tested to minimize impact to recruiting (C.f)?
Resources: FLDI IPT
Test(s): 2015 and 2016 Census Test
Status: Planned, Decisions validated during the 2017 Census Test
Completion: January 2017
Priority: H

☐ **DLM1:** How can we improve logistics management business processes to ensure timely, cost effective, delivery of materials to support decennial census activities (B.k)?

Resources: DLM IPT, FPD IPT
Test(s): No test planned
Status: Baseline based on market research
Decision by: December 2015
Priority: L

☐ **ITIN1:** Given the enabling technologies and integrated research plans for the decennial census, what are the optimal designs for a virtual office computing environment and field office test bed (B.m)? What technologies will be available to support the operational field infrastructure (B.g)? IT Infrastructure (C.a)?

Resources: FLDI IPT, ITIN IPT
Test(s): Ongoing
Status: Constant reappraisal
Decision by: virtual office computing environment made in 2015
Priority: H

☐ **ITIN2:** How can we modernize and increase the efficiency of our IT infrastructure (C.b)? What cloud services are required to support the 2020 operational design (to include CEDCaP and non-CEDCaP)?

Resources: ITIN IPT
Test(s): 2016 Census Test
Status: Planned
Decision by: June 2016
Priority: H

☐ **ITIN3:** What is the solutions architecture (applications, data, infrastructure, security, monitoring, and service management) for the 2020 Census, including use of enterprise solutions? What are the options for a successful real-time headquarters workload management system (C.c)?

Resources: CEDCAP, SEI IPT, SPC IPT, ITIN IPT
Test(s): Ongoing for each test
Status: Maturation of the business architecture and solutions architecture in line with the refinements of the Operational Plan and test results
Decision by: September 2016
Priority: H

☐ **ITIN4:** To what extent will BYOD and device as a service (DAS) be used to support field operations? What is the plan for the use of mobile devices for the 2020 Census? Security Platform for Mobile Devices (DAS & BYOD)? BYOD Acceptable Use Policy? BYOD Reimbursement Policy?

Resources: ITIN IPT, NRFU IPT
Test(s): 2014, 2015, and 2016 Census Tests
Status: Device as a service added as option for 2016 Test
Decision by: September 2016 (initial), October 2017 (final)
Priority: H

☐ **ITIN5:** What is the projected demand that the IT infrastructure and systems need to accommodate?

Resources: External Demand Model Team, ITIN IPT
Test(s): 2016 Census Test
Status: Planned
Decision by: June 2016 (constant revisions)
Priority: H

☐ **ITIN6:** What IT infrastructure is needed for broad business implementation of administrative records and third-party data from legal and security perspectives, like Title 26?

Resources: Administrative Records Modeling, ITIN IPT, RP IPT
Test(s): 2016, 2017, and 2018 Census Tests
Status: Planning
Decision by: September 2018
Priority: H

5.0 INTEGRATION RESEARCH AND TESTING

ID mapping to operations:

SEI is Systems Engineering and Integration.
INT is integration cross operations.

☐ **SEI1:** What tools and test materials are required to support the integrated tests (Performance Test Services, Representative Test Data, etc.)?

Resources: SEI IPT
Test(s): 2016 - 2019 Tests
Status: Planning
Decision by: September 2016
Priority: M

☐ **INT1:** Based on cost and quality trade-off analysis, what is the optimal operational design for field operations (B.f)? All operations and design?

Resources: Quality Analysis IPT
Test(s): 2016 and 2017 Census Tests
Status: Baselined without trade-off analysis, research planned for 2016 with updates ongoing through 2020
Decision by: September 2017
Priority: H

☐ **INT2:** What is the optimal timing of the integrated operations?

Resources: Management
Test(s): 2016 and 2017 Census Tests
Status: Baselined without trade-off analysis, research planned for 2016 with updates ongoing through 2020
Decision by: September 2017
Priority: H

☐ **INT3:** How can we improve the quality of matching and unduplication throughout decennial census operations (F.a)?

Resources: Matching Improvement Team, Matching IPT, Non-ID R&T Team
Test(s): ongoing throughout the decade
Status: Some analysis done as part of Non-ID, planned for 2016
Decision by: Ongoing
Priority: H

☐ **INT4:** What are the workload and cost impacts of each operation? What are workload and cost impacts of various telephone methods on NRFU?

Resources: CQA IPT, NRFU IPT
Test(s): 2016 and 2017 Census Tests
Status: Objectives under development
Decision by: September 2017
Priority: H

☐ **INT5:** What is the expected coverage by demography and geography of the integrated operational design?

Resources: Quality Analysis IPT
Test(s): 2016 and 2017 Census Tests
Status: Planning
Decision by: September 2017
Priority: H

☐ **INT6:** What are the mode effects for the methods proposed in the Operational Plan, including paper, internet, telephone, person, and administrative records?

Resources: Undefined
Test(s): 2017 Census Tests, 2018 End-to-End Test
Status: Under development
Decision by: January 2019
Priority: H

6.0 QUESTIONS DESCOPED

How do we partition the initial enumeration universe (based on optimal contact methods and gaps in coverage from strategies) (A.h)?

Rationale: Reworded from technical question to research question ISR10

Which language support services and technologies across contact and enumeration methods are most effective in increasing response and reducing differential self-response (A.i)?

Rationale: Descoped due to resource constraints

What changes do we need to make to decennial census forms design to ensure culturally and functionally appropriate translations (A.j)?
Rationale:

Rationale: Recently created corporate Translation Office will cover this

Can we use a mobile LCO (B.c)?

Rationale: Descoped due to resource constraints

How can we improve the effectiveness of Quality Control methods (B.i)?

Rationale: QC questions are embeded in each operation, depends on the design, delayed due to resource constraints

What are the alternatives and selected source for each of the major functions and when can the 2020 solution be integrated to support the research work (C.d)?

Rationale: Not a research question, will be answered but not in R&T

What is the right point in the recruiting and hiring process to conduct fingerprinting and name check (C.i)?

Rationale: Descoped due to resource constraints

How does BYOD (and Device as a Service) impact our Help Desk support (C.j)?

Rationale: Question was re-scoped into DSC1

Can we implement the technology needed for a mobile LCO (C.l)?

Rationale: Descoped due to resource constraints

How should household follow-up be improved by demography/geography (E.a)?

Rationale: Question was re-scoped into NRFU2

Do enumerator incentives impact production rates (E.j)?

Rationale: Descoped due to resource constraints

How can we best develop and maintain an independent administrative records research composite and assess the quality of the records (best sources and methods) (E.l)?

Rationale: This work was done but documentation was not completed due to resource constraints

7.0 APPROVAL SIGNATURES

_____

Deirdre Bishop Date
Chief, Decennial Census Management Division

_____

Shirin Ahmed Date
Assistant Director for Decennial Census Programs

_____

Lisa Blumerman Date

Associate Director for Decennial Census Programs

Approved for Internal Census Bureau Use Only

☐ All Census Users

☐ Restricted Access

_____

Initials

8.0 DOCUMENT LOGS

8.1 SENSITIVITY ASSESSMENT

This table specifies whether the document contains any administratively restricted information.

Verification of Document Content	
This document does not contain any: • Title 5, Title 13, Title 26, or Title 42 protected information; • Procurement information; • Budgetary information; and/or, • Personally identifiable information.	
Document Author/Team Lead: Robert Colosi	Date: 08/31/15

8.2 REVIEW/APPROVAL

This table documents the review level and approval authority.

Document Review and Approval Tier: Strategic Document		
Name	**Area Represented**	**Date**
Patrick Cantwell	Decennial Statistical Studies Division: Division Chief	10/2/15
Evan Moffett	Decennial Census Management Division: Operations Program Manager	12/15/15
Maryann Chapin	Decennial Census Management Division: Operations Program Manager	12/15/15
Jessica Graber	Decennial Census Management Division: Operations Program Manager	12/15/15
Andrea Brinson	Decennial Census Management Division: Deputy Chief	12/15/15
Tim Trainor	Geography Division Chief	12/28/15
Atri Kalluri	Decennial Information Technologies Division Chief	12/28/15
Deirdre Bishop	Decennial Census Management Division Chief	12/28/15
Shirin Ahmed	Assistant Director for Decennial Census Programs	12/28/15

Document Review and Approval Tier: Strategic Document		
Name	**Area Represented**	**Date**
Lisa Blumerman	Associate Director for Decennial Census Programs	12/28/15

8.3 VERSION HISTORY

The document version history recorded in this section provides the revision number, the version number, the date it was issued, and a brief description of the changes since the previous release. Baseline releases are also noted.

Version	Date	Description
V0.1	12-05-11	Submitted from Operations Area Lead to the PM Process Area for distribution to 20RPO peer reviewers
V1.0 Draft	04-30-12	Minor editorial fixes and version modified to a proposed baseline 1.0 for actual release to peer reviewers.
V1.0	05-16-12	Final document following PM, SEI, and OPS Area peer review finished on 5/11/12. Ready for baselining. Sent to the 20RPO Document Manager on 5/16/12.
V1.0	05-17-12	Final Draft completed Document Management Review.
V1.0	08-07-12	Final draft for 20RPO Chief approval, incorporates comments from PM, SEI, and OPS reviews.
V2.0	08-18-15	Updated based on reorganization
V3.0	09-18-15	Updated to reflect 2020 Census Operational Plan and restructured
V3.1	12-28-15	Final - Incorporated changes from review

9.0 WORKS CITED

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APPENDIX A: MAPPING OF 2012-2015 PROJECTS TO RESEARCH TRACKS

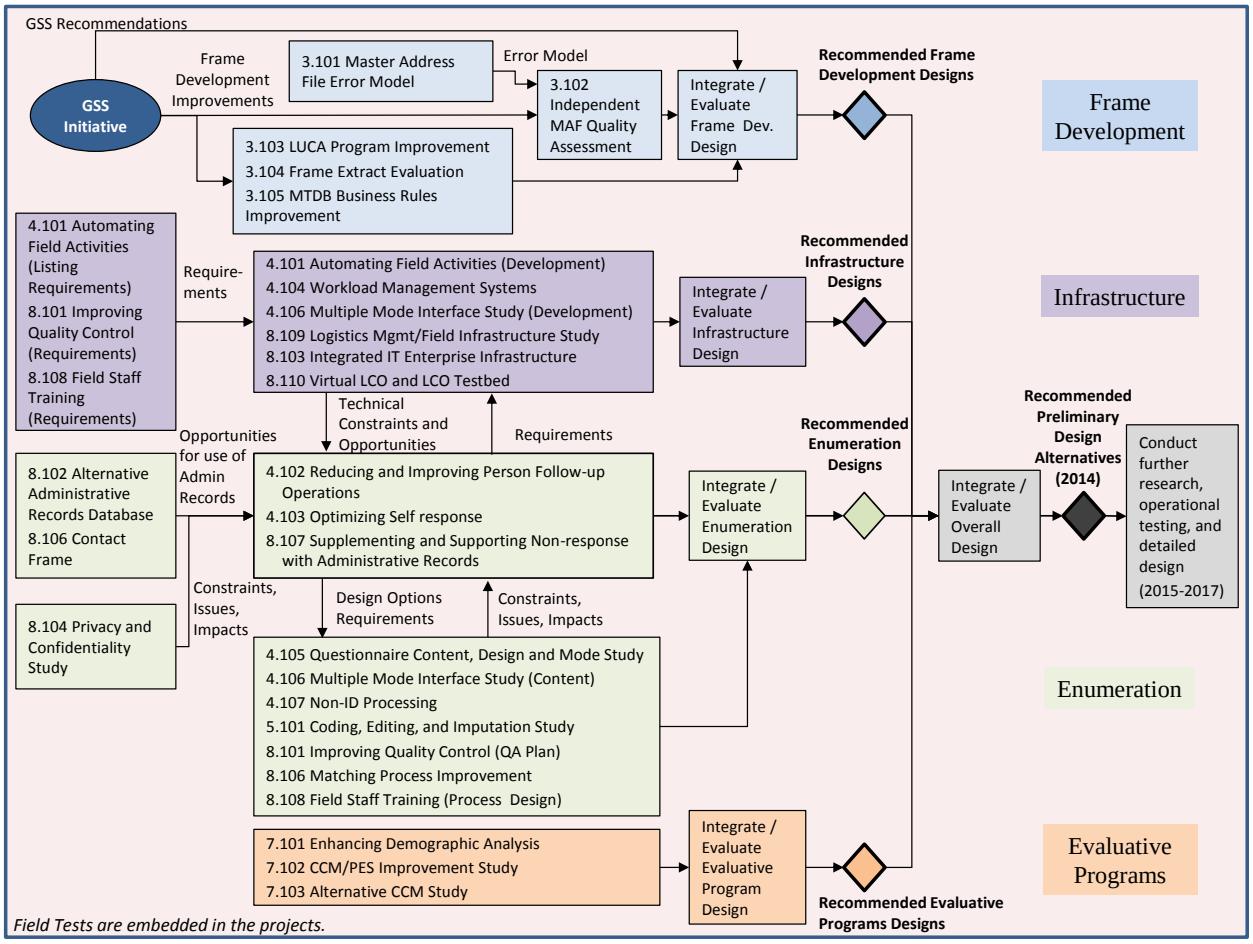

FIGURE 3: PROJECT AND KEY DECISION POINT INTERDEPENDENCIES

APPENDIX B: MAPPING OF RESEARCH OBJECTIVES TO TEST RESULTS AND DESIGN IMPACTS (PAST)

Double click the file below to view the embedded file.

Test	Date	Objective ID	Qs from FY13/Fy14 Bus Plans	Objectives/Goals from Test Plans	Results of Objective from Results Reports	Operational Decisions Made (from Operational Plan)
Address Validation Testing		ADC1	D.f, D.g,	Objective was to evaluate our methods for a reengineered address canvassing	Statistical models we applied were not effective at (a) identifying specific blocks with many Adds or Deletes, or (b) predicting national totals of MAF coverage errors Showed that Partial Block Canvassing methodology offers the potential to implement a more efficient approach to canvassing	[illegible] o In-Office Address Canvassing o In-Field Address Canvassing o Quality Control o MAF Coverage Study [illegible] Address Canvassing. [illegible] [illegible]
Address Validation Testing		ADC2	D.a,	Objective was to test how well in-office procedures can replace in-field procedures	Demonstrated the utility of imagery review to guide decision-making and operational planning for address canvassing Demonstrated the value of fieldwork to gather information for use in assessing the effectiveness of in-office methods	[illegible] o In-Office Address Canvassing o In-Field Address Canvassing o Quality Control o MAF Coverage Study [illegible] to validate addresses within each block [illegible] Address Canvassing. [illegible]
Address Validation Testing		ADC3	D.f, D.g, D.h	Objective was to assess our ability to ensure an accurate Master Address File (MAF)	Statistical models were ineffective at measuring MAF coverage error Ongoing research will focus on collecting metrics via the MAF Coverage Study	[illegible] [illegible] decade.
Address Validation Test: Part 1 - MAF Model Validation Test	Sept 2014 - Dec 2014	ADC4	D.c,	to collect data to inform components of the Targeted Address Canvassing decision-points MAF Error Model Targeted Address Canvassing, Research, Model, and Classification team Models for Zero Living Quarters blocks	Summary of results: The statistical models we applied were not effective at ... > identifying specific blocks with many Adds or Deletes > predicting national totals of MAF coverage errors Results for Statistical Models: ▪ Determining specific blocks that need additional action: · rate of error capture was too low · rate of erroneous canvass was too high ▪ Using statistical models to predict national totals of coverage errors on the MAF: · model parameters reflected condition of MAF in 2009 · now: only halfway through decade, and MAF has improved under Geographic Support System Initiative	[illegible] using a dependent canvass (from ground to list). [illegible] structure with a living quarter. [illegible] Address Canvassing
Address Validation Test: Part 1 - MAF Model Validation Test	Sept 2014 - Dec 2014	ADC5	D.a,	Concept test Micro-Targeting and uses of Aerial Imagery	Based on weighted results of imagery review for the 10,100 MMVT blocks: ▪ 84% of blocks with at least one address are stable. ▪ These blocks encompass an estimated 85% of all housing units. ▪ These blocks would be placed in a "passive" category, with ongoing monitoring for change, but not requiring active processing to acquire updates. ▪ 15% of housing units are located in "active" blocks, with updates acquired through the USPS' Delivery Sequence File, local government partner files, other administrative or commercial address lists, or fieldwork.	[illegible] canvassed in the field

APPENDIX C: MAPPING OF FUTURE DESIGN DECISIONS TO RESEARCH QUESTIONS (FUTURE)

Double click the file below to view the embedded file.

	A	B	C	D	E	F
1	Questions from the Fy13 and Fy14 Business Plans	ID	Questions to be answered in FY2016-2021 from Operational Plan	Tests	Date	Research Needed
2	C.a, C.b	SEI1	What tools and test materials are required to support the integrated tests (Performance Test Services, Representative Test Data, etc.)?		Sep-16	N but added to integration
3		SEI	What is the sourcing approach for each capability supporting the 2020 Census?		Jun-16	N
4		SPC	Will a Mobile Application Manager solution be used in lieu of a Mobile Device Manager to support mobile data collection?	2015 Census Test	Mar-16	N Why is this in SPC?
5		CFD5	What are the final content topics for the 2020 Census?	2015 National Content Test, other ongoing research, and input from advisory committees	Dec-16	Y
6		CFD6	What is the final questionnaire wording for the 2020 Census?	2015 National Content Test, other ongoing research, and input from advisory committees	Dec-17	Y
7		CFD4	What are optimal designs of questionnaires (including size and page layout) and non-questionnaire materials for the 2020 Census?	*2015 National Content Test*, field tests	Oct-17	Y, August 2018
8		CFD7	What is the paper questionnaire layout for respondents living in residences other than households (e.g. group quarters and transitory locations)	2016 and 2017 Census tests	Sep-17	Y
9		LNG1	What are the number of non-English languages and level of support needed for the 2020 Census?	2016 and 2017 Census tests will inform this decision	Sep-17	Y
10		GEOP	How will the MAF/TIGER System be used in support of reengineered field operations? For example, what are the data input and output processing and timing requirements and the workflows needed to support field data collection operations?	2016 Address Canvassing Test and 2017 Census Test	Oct-17	N
11		GEOP2	What Types of Enumeration Areas (TEA) are required for the 2020 Census?	2016 Address Canvassing Test and 2017 Census Test	Oct-17	Y
12		GEOP1	Will there be a separate New Construction Program or will the GSS-I program continue to collect new construction addresses for the 2020 Census?		Jun-17	Y
13		GEOP	How will the MAF/TIGER System interact with other 2020 Census systems to support 2020 Census Operations?	2016 Address Canvassing Test and 2017 Census Test Planning	Jan-17	N
14		GEOP	In what 2020 Census operations will addresses and features be updated and added? What are the expectations for the capture and availability of field updates? Available in real time? Available with the timeframe of the operations? Available for the next operation? Available for the final tabulation?	2016 Address Canvasing and 2017 Census Tests	Aug-17	N
15		GEOP	What is the source data (TIGER, commercial, or both) for map displays in the 2020 Census data collection and field management applications?	2016 Address Canvassing Test and the 2017 Census Test	Mar-17	N October 2017 (Final)
16		LUCA4	To what extent can administrative records and third-party data be used to validate addresses submitted by LUCA participants?	*2016 Address Canvassing Test*	Jun-17	Y
17		LUCA	How will the Census Bureau register LUCA participants over the Internet, and are there opportunities to use Title 13 E-signature capability so that it can be done online?		Dec-15	N
18		LUCA	What is the strategy for communicating late decade GSS-I activities during LUCA?		Oct-06	N
19		LUCA3	What is the 2020 Census LUCA Appeals process		Oct-16	Y
20		LUCA	To what extent does LUCA need to capture the use of the address (i.e. mailing, location, or both)?		Jul-16	N
21	D.b, D.d, d.e,	ADC7	Is Partial Block Canvassing more cost-effective than Full Block Canvassing?	2016 Address Canvassing Test	Jan-17	Y
22	D.b	ADC9	How will the field reengineering concepts tested for NRFU be used for In-Field Address Canvassing?	2016 Address Canvassing Test	Jan-17	Y
23	B.i	ADC10	How will Quality Assurance be handled?	2016 MAF Coverage Study and 2016 Address Canvassing Test	Jan-17	Y

APPENDIX D: DETAILED LIST OF 2020 CENSUS TESTS

Test	Scope	Timing
Public Opinion Polling	A public opinion survey of attitudes toward statistics produced by the federal government over the next two years, that focuses on trust in the federal statistical system, the credibility of federal statistics, and attitudes toward and knowledge of the statistical uses of administrative records. 850 nationally representative housing units per week (telephone)	Nightly Gallup Polling starting in February 2012 and ongoing as needed
2012 National Census Test	A study of overall self-response rates and Internet self-response rates 80,000 nationally representative housing units	Conducted from August 2012 to October 2012
2013 National Census Contact Test	A study to evaluate the quality of the Contact Frame (a list of supplemental contact information such as email addresses and phone numbers, built from third-party data sources) A study to test proposed enhancements to automated processing of census responses lacking a preassigned census identification number (Non-ID Processing) 39,999 nationally representative addresses	Conducted in January 2013
2013 Census Test	An operational study of Nonresponse Followup procedures 2,077 housing units in Philadelphia, PA	Conducted in the first week of December 2013
2014 Census Test	An operational study of self-response and nonresponse followup procedures 192,500 housing units in portions of Montgomery County, Maryland and Washington, D.C.	Census Day of July 1, 2014
Continuous Small-Scale testing	A study to identify respondent and non-respondent reactions to new modes of decennial census contact and response, specifically with regard to privacy and confidentiality Email 1,000-2,200 housing units (convenience sample)	Started in January 2014 and ongoing as needed
LUCA Focus Groups	Focus groups consisted of eligible LUCA participants representing various sizes and types of governments across the nation Engaged with 46 governmental entities	Conducted from March 2014 through June 2014

2014 Human-in-the-Loop Test	A simulation of reengineered field operations using an Operational Control Center and the enhanced operational control system (MOJO) to test proposed devices, systems, and the field structure for staff and management processes 87 field and office staff tested real-time field operations and field management structure in a simulated environment	Conducted in November 2014
Address Validation Test – MAF Model Validation Test	Evaluate methods for a Reengineered Address Canvassing 10,100 nationally representative blocks (100 blocks with no addresses); about 1.04 million addresses in the sample blocks	Conducted from September 2014 to December 2014
Address Validation Test – Partial Block Canvassing	Evaluate methods for a Reengineered Address Canvassing Staff conducted an interactive review of aerial imagery over time and geographic quality indicators 615 blocks with national distribution were listed by 35 professional staff	Conducted from December 2014 to February 2015
2015 Optimizing Self-Response Test	An operational study of self-response procedures 407,000 housing units in the Savannah, Georgia media market 120,000 sampled self-responding housing units	Census Day of April 1, 2015
2015 Census Test	An operational study of nonresponse followup procedures 165,000 sampled housing units in Maricopa County, Arizona	Census Day on April 1, 2015
2015 National Content Test	A sample of 1.2 million nationally-representative addresses. Includes 20,000 addresses in Puerto Rico and 100,000 addresses sampled reinterview.	Census Day of September 1, 2015
2016 Census Test	An operational study of self-response and nonresponse followup procedures Approximately 225,000 housing units per site in Los Angeles County, California and Harris County, Texas	Census Day of April 1, 2016
2016 Address Canvassing Test	An operational study of in-office and in-field address canvassing procedures	Conduct in the Fall of 2016; continues into 2017

2017 Census Test	An operational study of address canvassing, self-response, and nonresponse followup procedures	Census Day of April 1, 2017
2018 Census End-to-End Test	Urban, Rural, Puerto Rico, and Group Quarters represented Tests seven major threads that cover the vast majority of the 2020 Census requirements	Census Day of April 1, 2018 (Address Canvassing in prior calendar year)
Post End-to-End Testing	Ensure that any changes made to fix defects in the systems tested in the 2018 End-to-End Test performance testing in 2019 minimizes the risk of system crashes and respondent delays	Throughout 2018 and 2019

APPENDIX E: LIST OF TEAMS[4]

		Integrated Product Team (IPT)	Program Manager	Team Leader	Stakeholders	Proposed Working IPTs (WIPTs)
Program Management						
1	PM	**Program Management**	Deidre Hicks			**Schedule** **Budget** **Performance Measurement** **Risk Management**
Census/Survey Engineering						
2	SEI	**Systems Engineering and Integration**	Pete Boudriault	Jeff Smith Scott Fifield		**Requirements Engineering** **Solution Development** **Integration and Architecture**
3	SPC	**Security, Privacy, and Confidentiality**	Pam Mosley	John Moulton	**POL:** Byron Crenshaw **OIS:** Rainier Munoz **FLD:** Lou Konya	**Security** **Privacy and Confidentiality**
4	CFD	**Content and Forms Design**	Jessica Graber	Gianna Dusch	**DCMD:** Kuopei (Gwen) White, Jenny Kim, Dan Reyes, Francis McPhillips (address collection only), Daniel Reyes/Will Caldwell (PR, IA) **POP:** Keith Woodling, Kristin Koslap, Leanna Mellott, Colleen Hughes Keating **DSSD:** Mike Bentley, Julia Coombs, Rachel Horwitz **SEHSD:** Ellen Wilson, Mary Schwartz, Arthur Cresce	

[4] Note, as the 2020 Census Program moves out of the Research and Testing phase, the "teams" and their membership are being updated. The lists provided in Appendix E represent a snapshot at the time of the publication of this report.

5	LNG	**Language Services**	Jessica Graber	Kuopei (Gwen) White	**DCMD:** Jenny Kim, Gianna Dusch, Enid Santanaortiz, Belkines Germosan, Will Caldwell (PR, IA), Jane Ingold **DCBO:** Mary Bucci **POP:** Keith Woodling **DSSD:** Mike Bentley **FLD:** Emma (Vicki) Burke, Tomas Encarnacion **CLMSO:** Briana Kaya **CSM:** Patricia Goerman, Leticia Fernandez	
Frame						

6	GEOP	**Geographic Programs**	Evan Moffett	Carrie Butikofer	**DCMD:** Will Caldwell (PR, IA), Shawn Hanks **FLD:** Gail Leithauser, Nicole Parent **GEO:** Laura Waggoner, Mike Clements, Andrea Johnson	**TEA** **BCU** **BAS/BVP:** Laura Waggoner (GEO) **PSAP, TSAP, and PUMA:** Josh Coutts (GEO), Vince Osier (GEO), Laura Waggoner (GEO), Ryan Short (GEO) **Geographic Partnership:** Laura Waggoner (GEO), Carrie Butikofer (DCMD), Mary Bucci (DCBO) **Collection Geography:** Michael Clements (GEO), Carrie Butikofer (DCMD), Sari Jolly (DCMD) **TAB Block Delineation:** Kevin Hawley (GEO), James Whitehorne (RDO), Vince Osler (GEO) **Geographic Delineations:** Vince Osier, Laura Waggoner (GEO), Josh Coutts (GEO), Kevin Hawley (GEO), Ryan Short (GEO) **GARP:** Laura Waggoner (GEO), Ryan Short (GEO) **Map Production and Plotting:** Nathan Jones (GEO), Laura Waggoner (GEO)
7	LUCA	**Local Update of Census Addresses (LUCA)**	Evan Moffett	Mark Scheu	**DCMD:** Shawn Hanks, Carrie Butikofer, Will Caldwell (PR) **GEO:** Laura Waggoner, Brian Timko **NPC:** Sheila Gividen **FLD:** Heidi Crawford	

8	ADC	**Address Canvassing**	Evan Moffett	Karen Owens	**GEO:** Greg Hanks, Mike Ratcliffe, Andrea Johnson, Laura Waggoner, Lee Wantela, Dan Keefe, Robert Darmario, April Avnayim, Paul Namie **FLD:** Gail Leithauser, Karen Field, Tracy Newman, Laurie Simonds **DSSD:** Debbie Fenstermaker, RJ Marquette, Laura Ferreira, Leah Marshall **DCMD:** Shawn Hanks, Dora Durante, Deborah Russell, Latrice Brogsdale Davis, Sally Snodgrass, Nadine Huntley-Hall, Will Caldwell (PR), Rohn Mclean*, KD Brar* *contractor	**In-Office Canvassing:** April Avnayim **In-Field Canvassing:** Tracy Newman **In-Office GQ:** Latrice Brogsdale Davis **MAF Coverage Study:** Karen Owens **In-House update** **Quality Control** **Update GQ Frame**
Response Data						
9	FPD	**Forms, Printing, and Distribution**	Alexa Jones-Puthoff	Mark Matsko	**ACSD:** Linda Vaughn **ADEP:** Jennifer Morse **DCMD:** Jane Ingold, Jenny Kim (Gwen White, Belki Areans), Will Caldwell (PR, IA) Daniel Reyes, Dora Durante (Jeremy Roberts), Evan Moffett, (Shawn Hanks) Maryann Chapin (Teresa Hicks), Mark Wolfram, Myron Smith, Robert Packard, Ray Muenzer, Karen Wyatt-Meyer, Shawn Ray **DITD:** Debbie Mockabee **DSSD:** RJ Marquette (Glenn Wolfgang), Tom Mule **EPCD:** Meg Ruhnke **FLD:** Gail Leithauser, Bryn Johnson (Lillian (Denise) Gordon), Hector Merced **NPC:** Edmond Jarrell (Jennifer Simpson, Karl Krider)	

10	PDC	**Paper Data Capture**	Alexa Jones-Puthoff	Mark Matsko	**ACSD:** Linda Vaughn **ADEP:** Jennifer Morse **DCMD:** Jane Ingold, Jenny Kim (Gwen White, Belki Areans), Will Caldwell (PR, IA) Daniel Reyes, Dora Durante (Jeremy Roberts), Evan Moffett, (Shawn Hanks) Maryann Chapin (Teresa Hicks), Mark Wolfram, Myron Smith, Robert Packard, Ray Muenzer, Karen Wyatt-Meyer **DSSD:** RJ Marquette (Glenn Wolfgang), Tom Mule **EPCD:** Meg Ruhnke **FLD:** Gail Leithauser, Bryn Johnson (Lillian (Denise) Gordon), Hector Merced **NPC:** Edmond Jarrell (Jennifer Simpson, Karl Krider)	
11	ICO	**Integrated Partnership and Communications**	Tasha Boone	Mary Bucci (DCBO)	**DCMD:** Jane Ingold, Will Caldwell (PR, IA), Alexa Jones-Puthoff **ADCOM:** Lauren Shaw, Michelle Hedrick, Monica Vines, Kendall Johnson **DIR:** Stephen Buckner **CLMSO:** Brian Kaya	**Electronic Communication Field Partnership Program Advertising Campaign**

12	ISR	**Internet Self-Response**	Jessica Graber	Jane Ingold	**CSM:** Beth Nichols **POP:** Ann Ross, Dallas Peek, Christine Flanagan Borman, Colleen Keating **DITD:** Charles Kahn, Ray Muenzer, Myron Smith **OSCA:** Darlene Mone **GEO:** Jeremy Hilts **DCMD:** Jackie Postell, Sonia Collazo, Belkines Arenas, Enid Santone, Will Caldwell (PR), Alexa Jones-Puthoff, Kevin Zajac **DCBO:** Mary Bucci **DSSD:** Mike Bentley, Rachel Horowitz **CARRA:** Dave Sheppard, Kristine Roinstad, Bonnie Moore **ADCOM:** Logan Powell	**Internet** **Contact Strategies**
13	NID	**Non-ID Processing**	Evan Moffett	Francis McPhillips	**CARRA:** Dave Sheppard **DCMD:** Meagan Tydings, Dan Reyes (PR) **DSSD:** Teresa Schellhamer **GEO:** Jeremey Hilts	
14	UE	**Update Enumerate**	Evan Moffett	Shawn Hanks	**DCMD:** Carrie L Butikofer, Dora B Durante, Shawn Hanks, Sonia Collazo, Venus Anderson, Francis C McPhillips, Karen A Piskurich, Will Caldwell (PR, IA), Mark Matsko **DSSD:** Robin A Pennington, RJ Marquette **FLD:** Gail Leithauser, Bryn Johnson, Karen Field **GEO:** Seth Showalter	**Remote Alaska** **Rural area enumeration (Update Leave/ Update Enumerate areas)** **UE Quality Control**

15	GQO	**Group Quarters**	Evan Moffett	Dora Durante	**DCMD:** Latrice Brogsdale Davis, Theodora Knight, Deborah Russell, Jeremy Roberts **DSSD:** Diane Barrett **CAD:** Louis Avenilla **FLD:** Melody Troxell **GEO:** Raymond Craig Jr. **POP:** Marcella Jones-Puthoff **DITD:** Waymon Meeks Team Reviewers: **DCMD:** Will Caldwell (PR, IA) **DSSD:** Asaph Young Chun, Robin Pennington **CARRA:** David Sheppard **CSM:** Leticia Esther Fernandez **FLD:** Steve Walerysak **GEO:** **PCO:** Mary Reuling Lenaiyasa **POP:** Charles Holmberg, Amy Symens Smith, Kristin Koslap **DITD:** Charles Kahn	**GQ Administrative Records** **GQ Enumeration (Field Operation)** **Service Based Enumeration** **Military Group Quarters** **Shipboard Enumeration**
16	ETL	**Enumeration at Transitory Locations**	Maryann Chapin	Maryann Chapin	**FLD:** Gail Leithuaser, Bryn Johnson, Hector Merced **DSSD:** RJ Marquetter **GEO:** Andrea Johnson **DITD:** Charles Kahn **DCMD:** Evan Moffett, Dora Durante, Josh Latimore	

17	CQA	**Census Questionnaire Assistance**	Alexa Jones-Puthoff	Kevin Zajac (DCMD)	**DCMD:** Andrea Brinson, Holly Stock, Lam Nguyen, Jessica Graber, Jane Ingold, Jennifer Kim, Maryann Chapin, John Moulton, Sari Jolly, Noblis contractors **DCBO:** Mary Bucci **ADSD:** Sandy Ehni **OIS:** Rainier Suazo Munoz	**Inbound/Outbound Phone** **Web Chat**
18	NRFU	**Nonresponse Followup**	Maryann Chapin	Josh Latimore	**DCMD:** Francis McPhillips (Field Verification), Will Caldwell (PR, IA), Jay Occhiogrosso, Adley Kloth **FLD:** Bryn Johnson, Gail Leithauser **ASD:** John Studds **DSSD:** Magda Ramos, Tom Mule **ADRM:** Tammy Adams Stephanie Studds **DITD:** Charles Kahn **GEO:** Greg Hanks, Andrea Grace Johnson **CARRA:** Tom Mule, John Studds **NRFU QC:** Bob Colosi, RJ Marquette, Gail Leithauser, Bryn Johnson, Tammy Adams, Hector Merced, Samantha Fish Updates During NRFU: Francis McPhillips, Gail Leithauser, Bryn Johnson, Tammy Adams **NRFU Contact Attempt:** Tammy Adams, Gail Leithauser, Bryn Johnson, Brian DeVos, Tom Mule	**NRFU Vacant Delete** **NRFU Quality Control** **Field Verification** **Administrative Records**

19	RPO	**Response Processing**	Jill O' Brien	Chuck Fowler (DCMD)	**CARRA:** Dave Sheppard **CSM:** Ben Klemens, Yves Thibaudeau, William Hazard, William Winkler, Rolando Rodriguez **DITD:** Michael Clark, Jim Cope, Gary Curzi, Charles Kahn, Gerard Moore **DSSD:** Kevin Shaw, Aneesah Williams, Deborah Fenstermaker (Teresa Schellhamer, Andy Keller), Tom Mule, Robin Pennington, Mike Bentley (Sarah Konya) **DCMD:** Jane Ingold, Will Caldwell (PR, IA) Daniel Reyes, Evan Moffett, Maryann Chapin (Teresa Hicks), Shawn Hanks **POP:** Anne Ross (Keith Woodling), Colleen Joyce, Chris Boniface, Marc Perry	**Universe Control** **Editing/Coding/Imputation** **Administrative Records Use** **Primary Selection Algorithm** **Invalid Return Detection** **Census Unedited File** **Census Edited File**
20	FAA	**Federally Affiliated Americans Count Overseas**	Jessica Graber	Will Caldwell (DCMD) Josephine Bustos		
Publish Data						
21	DPD	**Data Products and Dissemination**	Jessica Graber	Jenny Kim Jane Ingold	**DCMD:** Maryann Chapin **DITD:** Michael Clark **DSSD:** Deborah Fenstermaker, Robin Pennington, RJ Marquette, Gia Donnelly	**Products** **Apportionment** **Tabulation**
22	RDP	**Redistricting Data Program**		James Whitehorne	**BBSP and VTD:** **RDO:** James Whitehorne **GEO:** Laura Waggoner, Andrew Stanislaw, Ryan Short	

23	CRO	**Count Review**	Maryann Chapin	Maryann Chapin	**CAD:** Lou Avenilla **CARRA:** Craig Cruse **DITD:** Charles Kahn **DCMD:** Evan Moffett, Dora Durante **FLD:** Gail Leithauser **GEO:** Mike Ratcliffe, Andrea Johnson, Brian Timko **POP:** Marc Perry, Jason Devine	
24	CQR	**Count Question Resolution**	Evan Moffett	Dora Durante	**CAD:** Louis R Avenilla	
25	ARC	**Archiving**	Jill O' Brien	Andrea Brinson		
Other Censuses						
26	IAE	**Island Areas Enumeration**	Jessica Graber	Will Caldwell	**DCMD:** Shelby Plude	**Frame Development Enumeration**
Test, Evaluation and Unique Operations						
27	CMDE	**Coverage Measurement Design & Estimation**	Maryann Chapin	Teresa Hicks	Demographic Analysis **POP:** Jason Devine, (Andrew) Jason Reese, Chris Dick, Ben Bolender, Rodger Johnson, Amel Toukabri **DCMD:** Ryan Cecchi, Sherri Norris Design and Estimation **DSSD:** Tim Kennel, Magda Ramos, Tom Mule, Andy Keller, Debbie Fenstermaker, Gia Donnelley, Andreana Able, Scott Konicki, Michael Clark **DCMD:** Ryan Cecchi, Sherri Norris	**Demographic Analysis Design and Estimation**

28	CMM	**Matching** Include Coverage Measurement Matching (Computer and Clerical)	Maryann Chapin	Teresa Hicks	**DSSD:** Magda Ramos, Gia Donnalley, Andreana Able, Anne Wakim, Ryan King, Alicia Green **DITD:** Michael Clark **DCMD:** Ryan Cecchi, Sherri Norris **NPC:** ?	**HU Matching** **Person Matching** **Final HU Matching**
29	CMFO	**Coverage Measurement Field Operations**	Maryann Chapin	Teresa Hicks	**DSSD:** Magda Ramos, Gia Donnalley, Diane Cronkite, Patricia Sanchez, RJ Marquette, Andreana Able **FLD:** Hector Merced, Joni Richman **DCMD:** Ryan Cecchi, Sherri Norris **GEO:** Andrea Johnson **NPC:** ? **ADSD:** Steven Tornell, Nicole Seamands, Geoff Pesja	**Independent Listing** **HU Follow up** **Person Interview** **Person Follow up** **Final HU Follow up**
30	EAE	**Evaluations and Experiments**	Maryann Chapin	Maryann Chapin		
Infrastructure						
31	DSC	**Decennial Service Center**	Vacant – Andrea Brinson Acting	Renae Wallace (LTSO)	**LTSO:** Mark Markovic, Douglas Curtner **ISSRO:** Russell Richards **DITD:** Justin McLaughlin **FLD:** Bryn Johnson, Gail Leithauser Richard Liqurie **DCMD:** Will Caldwell (PR, IA)	**Enumerator Help Desk** **Electronic Help Desk** (e-mail, Chat, apps, and txt)

32	FLDI	**Field Infrastructure**	Alexa Jones-Puthoff	Shawn Ray	**FLD:** Sari Anderson, Gail Leithhauser, Richard Liquori, John Donnelly, Sneha Thakor Desai, Bob Tomassoni, Nelson Er, Gini Winderson, Sydnee Reynolds **AMSD:** Sandra Patterson, Jeffery Seibert, Alessandro Rebaudengo, Jessica Simmons, Curtis Allen **LTSO:** Douglas Curtner **NPC:** Edmond Jarrell **DCMD:** Evan Moffett, Maryann Chapin, Jenny Kim, Will Caldwell (PR, IA), Mark Matsko, Kevin Zajac, Shawn Ray, Mark Wolfram **ISSRO:** Russell Richards	**Field Offices -**(RCCs, LCOs, etc.) - Acquisition/Lease, Provision, Build out, and Supply **Human Resources Personnel Management and Support -** Recruit, hire, train, payroll
33	DLM	**Decennial Logistics Management**	Alexa Jones-Puthoff	Shawn Ray Edmond Jarrell (NPC)		
34	ITIN	**IT Infrastructure**	Justin McLaughlin			**Enterprise Applications** **Decennial Specific Applications** **Field Office IT Infrastructure** **Mobile Computing**
Integration Teams						
35	EDM	**External Demand Modeling**				
36	QAT	**Quality Analysis**	Mike Perez	Bob Colosi		
36	ROCkIT	**Reorganized Census with Integrated Technology**	Stephanie Studds			

FY13 Business Plan Detailed Questions

A. Expanded, Automated, and Tailored Contact Strategies and Self-Response: How do we leverage technology, variations in demographic/geographic response propensities, and new response modes to increase self-response?

a) What is the expected rate of self-response via the Internet? **(ISR1)**

b) What is the expected self-response rate? **(ISR1)**

c) In lieu of paper, what other strategies are effective at boosting the self-response rate? **(ISR3,4,5,6,7)**

d) What technologies will be feasible for self-enumeration in 2020, and how will they differ by demography and geography? **(ISR4,5,7,9)**

e) What is the best mix of modes and strategies by demography/geography to increase self-response? **(ISR2,3,5)**

i) What are the best notify-contact-remind strategies and timing by mode and by demography/geography?

ii) What are the costs and benefits of different self-response modes by demography/ geography (including impact on data quality)?

iii) How can the Internet (e.g., social networking sites, email, text messaging, communities of interest) be used for encouraging and collecting responses?

f) Which modes are most useable by which demographic, language, and geographic groups? **(ISR9)**

g) How can we identify or develop alternative contact frames that can be geocoded to an address? **(ISR3)**

h) How do we partition the initial enumeration universe (based on optimal contact methods and gaps in coverage from strategies)? **(ISR9)**

i) Which language support services and technologies across contact and enumeration methods are most effective in increasing response and reducing differential self-response? **(Descoped)**

i) What are the optimal questionnaire designs and modes for recognized demographic and Limited English Proficiency populations?

ii) How should residence rules presentation to respondents be modified for different modes?

j) What changes do we need to make to decennial census forms design to ensure culturally and functionally appropriate translations? **(Descoped)**

B. **Reengineered Field Infrastructure:** How can we modernize and increase the efficiency and utility of our Field operational infrastructure?

a) How many early local census offices (ELCO), local census offices (LCO), and regional census centers (RCC) are required to support field operations? **(FLDI1)**

b) What staff positions are required in the ELCOs/LCOs to support address listing and field enumeration? **(FLDI2, NRFU7)**

c) Can we use a mobile LCO? **(Descoped)**

d) How does automated training impact subject retention by enumerators? **(FLDI4)**

e) How does automated training impact the infrastructure? **(FLDI4, NRFU7)**

f) What is the baseline operational design for field operations? **(Op Plan, INT1)**

g) What technologies will be available to support the operational field infrastructure? **(ITIN1)**

h) How can we effectively automate and streamline field operations to take advantage of changes in design and technology in response and non-response follow-up data collection modes? **(FLDI3)**

i) How can we improve the effectiveness of Quality Control methods? **(Descoped)**

j) How do we reduce the overall cost of field structure while ensuring the flexibility that allows the Census Bureau to respond to unforeseen operational challenges and fluctuation in workloads that put demands on these resources? **(NRFU4, 5, 6, 7)**

k) How can we improve logistics management business processes to ensure timely, cost effective, delivery of materials to support decennial census activities? **(DLM1)**

l) How can we improve the efficiency of training field staff to better utilize advanced training techniques to get better data at lower costs? **(FLDI4, NRFU7)**

m) Given the enabling technologies and integrated research plans for the decennial census, what are the optimal designs for a virtual office computing environment and field office test bed? **(ITIN1)**

C. **Reengineered IT Infrastructure:** How can we modernize and increase the efficiency and utility of our IT infrastructure, building enterprise shared services?

a) What technologies will be available to support the IT infrastructure? **(ITIN1)**

b) How can we modernize and increase the efficiency of our IT infrastructure? **(ITIN2)**

c) What are the options for a successful real-time headquarters workload management system? **(ITIN3)**

d) What are the alternatives and selected source for each of the major functions and when can the 2020 solution be integrated to support the research work? **(SEI2)**

e) Can we technically build tools that will support field staff to "Bring Your Own Device" (BYOD)? **(ITIN4)**

f) What policies and procedures need to be tested to minimize impact to recruiting? **(FLDI5)**

g) What is the business process for deploying BYOD? **(ITIN4)**

h) What is the architecture (including framework) and equipment #'s and type needed to support for AC and field enumeration, including BYOD? **(ITIN4)**

i) What is the right point in the recruiting/hiring process to conduct fingerprinting and name check? **(Descoped)**

j) How does BYOD impact our management and Help Desk support? **(DSC1)**

k) Can we deliver data collection instruments that cognitively work on small devices and in multiple languages? **(Descoped)**

l) Can we implement the technolody needed for a mobile LCO? **(Descoped)**

D. **Address Frame Updating:** Given the nature of the Address List Development process, which includes multiple inputs and a dynamic status, how will we determine the required level of quality needed in the address frame to conduct an accurate census and then measure the quality of the continually updated MAF for that purpose?

a) How much of the Address Canvassing universe workload can be reduced by using targeting methods? **(ADC2, 5, 6)**

b) What are the production rates for the geographic areas in a targeted address canvassing operation? **(ADC7)**

c) What is the geographic distribution of the blocks that will require canvassing in Address Canvassing? **(ADC4)**

d) What is the impact of the automated address listing instrument on production rates? **(ADC7)**

e) What is the impact of discontiguous blocks on production rates? **(ADC7)**

f) To what extent can we build a usable statistical model of MAF errors, error components, and their magnitude? **(ADC1, 3)**

g) How will we use the statistical MAF error model and an independent team to measure the quality of the MAF? **(ADC1, 3)**

h) Does the quality of the MAF meet 2020 Census requirements? **(ADC3)**

i) What improvements to the 2020 LUCA Program are desired or required that are cost-effective and yield high data quality? **(LUCA1, 2)**

j) How can we improve methods of processing address data? **(Descoped)**

   i) Can new methods be used for extracting addresses from the Master Address File/Topologically Integrated Geographic Encoding and Referencing Database (MTDB) for more efficient fieldwork than under current methods?

   ii) Do we need to modify the MAF business rules, taking into consideration previously unused data sources and enhanced Geography Division processes?

k) How can respondent-initiated responses be better linked to a geocoded address? **(NID1,2)**

E. **Reduce Workloads and Increase Efficiency of Non-Response Operations:** How do we improve non-response follow-up data collection strategies and leverage administrative reccords (including commercial files) to significantly reduce decennial census enumeration cost while maintaining quality?

a) How should household follow-up be improved by demography/geography? **(Descoped)**

b) What should the contact strategy be in terms of modes and timing for household follow-up? **(NRFU2)**

c) What is the expected non-response workload? **(NRFU21)**

d) How much of the non-response workload can be successfully enumerated using Administrative Records? **(NRFU1)**

e) What are the production rates for non-response cases remaining after use of Administrative Records for enumeration? **(NRFU23)**

f) What are the production rates if we don't use admin records but make other changes in the operation, e.g., adaptive design or limiting the personal visits? **(NRFU2, 22)**

g) What is the effect of centralized vs decentralized telephone followup strategy? **(NRFU3)**

h) What are the differences in production rates for housing unit status occupied vs vacant vs deletes? Can administrative records impact those rates by mode/method of collection? **(NRFU22)**

i) At what level can we link phone numbers to addresses to enable a telephone first followup strategy? **(NRFU3)**

j) Do enumerator incentives impact production rates? **(Descoped)**

k) How can we best strategically re-use administrative records to improve quality, reduce costs, reduce respondent burden, and improve program assessment methods? **(NRFU1)**

l) How can we best develop and maintain an independent administrative records research composite and assess the quality of the records (best sources and methods)? **(Descoped)**

m) How can we use Administrative Records to replace non-response contacts? **(NRFU1)**

   i) How many interview/contact attempts can be projected to be reduced?

   ii) Can imputation methods be used to account for unresolved data due to curtailment?

   iii) What happens to accuracy under different scenarios of non-response curtailment and Administrative Records usage?

   iv) How much does curtailing non-response reduce cost?

   v) What biases are introduced by the use of administrative records for those purposes?

F. **General Design Questions**: If a greater number of response modes and administrative records are cornerstones of the 2020 Census design, will we be able to effectively unduplicate response data, deal with potential privacy and confidentiality concerns, adapt our design to specific areas or addresses, reduce paper, increase productivity in the field, and streamline operations?

a) How can we improve the quality of matching and unduplication throughout decennial census operations? **(INT3)**

   i) What matching techniques, including new theoretical and/or methodological models are optimal for each decennial census application?

   ii) How do we determine optimal cutoffs for probabilistic matching?

b) How does using the Internet, web-based applications, and administrative record data in ways under consideration for the 2020 Census impact the public's perceptions of privacy and confidentiality? **(SPC2,3)**

c) What is the best way to perform data collection functions for other groups (such as those in Group Quarters) that are not major cost drivers for total costs? **(Op Plan)**

d) Can we integrate the coverage program as a way to save costs later? **(Op Plan, CMDE1, CMFO1, CMFO2)**

APPENDIX F: LIST OF ACRONYMS

Acronym	Definition
20RPO	2020 Research and Planning Office
ADC	Address Canvassing
ARC	Archiving
BYOD	Bring Your Own Device
CCM	Census Coverage Management
CEDCaP	Census Enterprise Data Collection and Processing
CF	Contact Frame
CFD	Content and Forms Design
CMDE	Coverage Measurement Design and Estimation
CMFO	Coverage Measurement Field Operations
CMM	Coverage Measurement Matching
CQA	Census Questionnaire Assistance
CQR	Count Question Resolution
CRO	Count Review
DA	Disclosure Avoidance
DAS	Device as a Service
DCMD	Decennial Census Management Division
DITD	Decennial Information Technology Division
DLM	Decennial Logistics Management
DOC	Department of Commerce
DPD	Data Products and Dissemination
DSC	Decennial Service Center
DSF	Delivery Sequence File
DSSD	Decennial Statistical Studies Division
EAE	Evaluations and Experiments
ELCO	Early Local Census Office
ETL	Enumeration at Transitory Locations
EVM	Earned Value Management
FAA	Federally Affiliated Americans Count Overseas
FLDI	Field Infrastructure
FMO	Field Manager of Operations
FPD	Forms Printing and Distribution
FY	Fiscal Year
GEO	Geography Division
GEOP	Geographic Programs
GQ	Group Quarters
IA	Island Areas Enumeration
ID	Identifier
IPC	Integrated Partnerships and Communication
IPT	Integrated Project Team
ISR	Internet Self-Response
ISSO	Information System Security Officer

Acronym	Definition
IT	Information Technologies
ITIN	IT Infrastructure
IVR	Interactive Voice Response
KIA	Key Innovation Areas
LCO	Local Census Office
LNG	Language Services
LSO	Local Supervisors of Operations
LUCA	Local Update of Census Addresses
MAF	Master Address File
MMVT	MAF Model Validation Test
MOCS	Multimode Operational Control System
MOJO	Operational Control System for Workload Planning and Collection Processing
NID	Non-ID Processing
NPC	National Processing Center
NRFU	Nonresponse Followup
OMB	Office of Management and Budget
OPS	Operations
OSR	Optimizing Self Response
PBC	Partial Block Canvassing
PDC	Paper Data Capture
PM	Program Manager
PMR	Program Management Reviews
QC	Quality Control
RCC	Regional Census Center
RDP	Redistricting Data Program
RIPF	Reducing and Improving Person Followup
ROCkIT	ReOrganized Census with Integrated Technology
RPO	Response Processing
R&M	Research and Methodologies
R&T	Research and Testing
SEI	Systems Engineering & Integration
SIMEX	Simulation Experiment
SPC	Security, Privacy, and Confidentiality
UE	Update Enumerate
WBS	Work Breakdown Structure