

**2017 Puerto Rico Census Test (PRCT)**  
**Goals, Objectives, Success Criteria (GOSC) and Research Questions**  
**May 4, 2016 – Baseline Version 1.0**

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## **List of the Operations Participating in the Test and Program Managers**

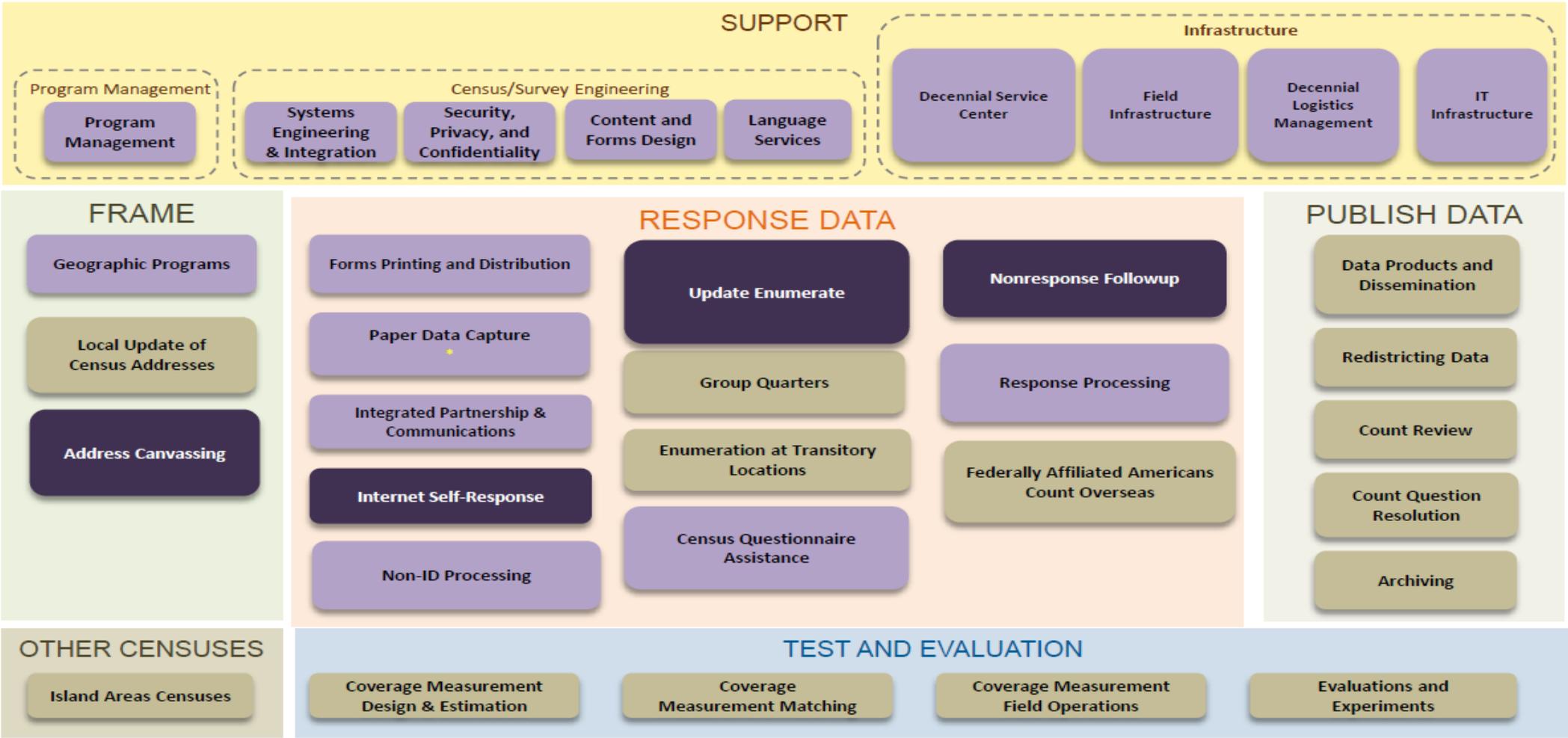
<b>Operation/Support</b>	<b>Program Manager</b>
<i>Address Canvassing*</i> <i>Geographic Programs*</i> <i>Non-ID Processing</i> <i>Update Enumerate*</i>	<i>Evan Moffett</i>
<i>Content and Forms Design</i> <i>Language Services</i> <i>Puerto Rico Enumeration*</i> <i>Internet Self-Response*</i>	<i>Will Caldwell (Acting)</i>
<i>Integrated Partnerships and Communications</i>	<i>Tasha Boone</i>
<i>Decennial Translation Office</i>	<i>Jason Kopp</i>
<i>Nonresponse Followup*</i>	<i>Maryann Chapin</i>
<i>Decennial Service Center</i> <i>Response Processing</i>	<i>Raphael Corrado</i>
<i>Forms Printing and Distribution</i> <i>Paper Data Capture</i> <i>Field Infrastructure</i> <i>Decennial Logistics Management</i> <i>Census Questionnaire Assistance</i>	<i>Alexa Jones-Puthoff</i>
<i>Systems Engineering and Integration</i> <i>Security, Privacy and Confidentiality</i> <i>IT Infrastructure</i>	<i>Pete Boudriault</i>
<i>2017 Puerto Rico Census Test</i>	<i>Deirdre Bishop</i>

2017 Puerto Rico Census Test - Diagram

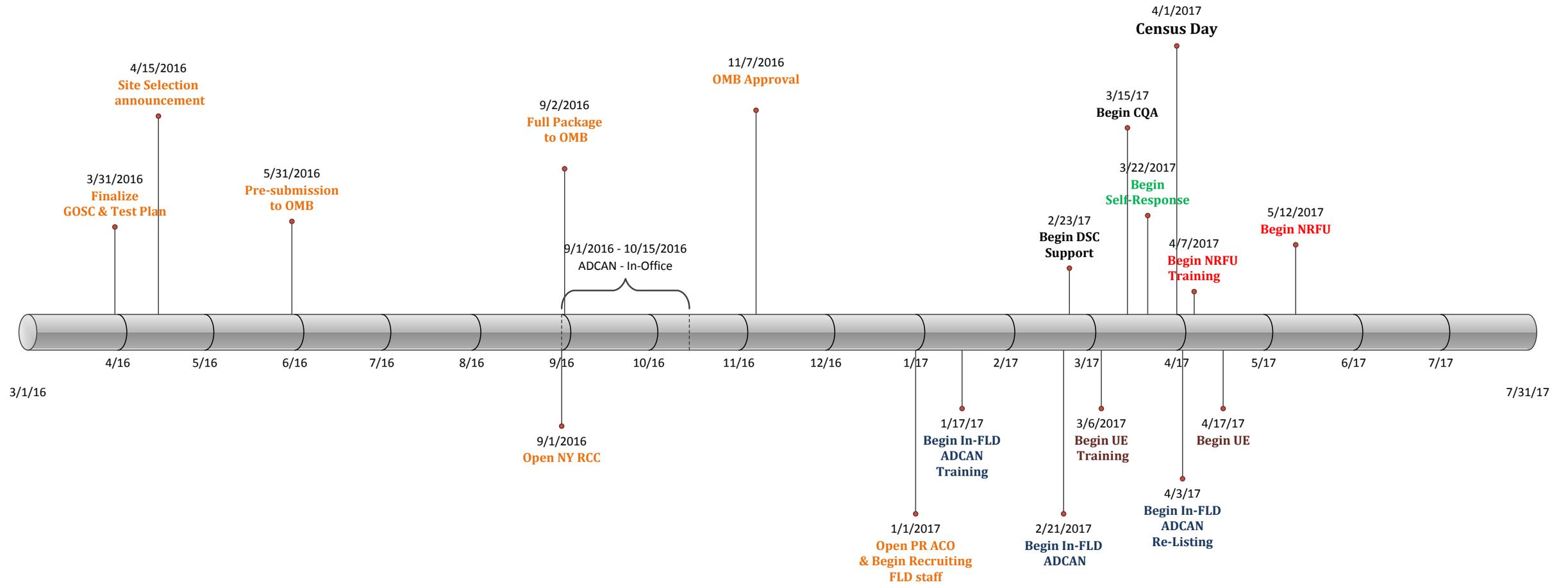
# 2017 Puerto Rico Census Test

Legend:

- Focus of the Test** (Dark Purple)
- Required to Support the Test** (Light Purple)
- NOT Included in the Test** (Light Green)



## 2017 Puerto Rico Test – Timeline (05/04/16)



## Key Information

Test Focus	<ul style="list-style-type: none"> <li>• Test the Address Canvassing operation in Puerto Rico (to begin on February 21, 2017 and end on March 31, 2017).</li> <li>• Integrate Self-Response, Update Enumerate (UE), and Nonresponse Followup operations in Puerto Rico, include components of reengineered quality control objectives for Nonresponse Followup that were tested in the 2016 Census Test.</li> <li>• Test Spanish versions and the application of Puerto Rico address standards in all modes.</li> </ul>			
Census Day	April 1, 2017			
Scope and Limitations	The Puerto Rico Census Test (2017 PRCT) results will be based on housing units selected from a particular local area, and cannot be generalized to the entire nation. The results do not predict national trends or rate estimates expected in the 2020 Census. This test, however, will provide valuable indicators for contact and enumeration strategies in Puerto Rico as we plan the 2020 Census for Puerto Rico.			
Operations	<table border="0" style="width: 100%;"> <tr> <td style="width: 33%; vertical-align: top;"> <u>Test Focus Operation - Goals, Objectives, Success Criteria and Research Questions:</u> <ul style="list-style-type: none"> <li>• Address Canvassing</li> <li>• Internet Self-Response</li> <li>• Update Enumerate</li> <li>• Nonresponse Followup</li> </ul> </td> <td style="width: 33%; vertical-align: top;"> <u>Support Operations - with Goals, Objectives, Success Criteria and Research Questions:</u> <ul style="list-style-type: none"> <li>• Systems Engineering and Integration</li> <li>• Field Infrastructure</li> <li>• Non-ID Processing</li> </ul> </td> <td style="width: 33%; vertical-align: top;"> <u>Support Operations Only – Summary on how the operation will support the test:</u> <ul style="list-style-type: none"> <li>• Geographic Programs</li> <li>• Forms Printing &amp; Distribution</li> <li>• Paper Data Capture</li> <li>• Integrated Partnerships &amp; Communications</li> <li>• Census Questionnaire Assistance</li> <li>• Response Processing</li> <li>• Content and Forms Design</li> <li>• Language Services</li> <li>• Decennial Service Center</li> <li>• IT Infrastructure</li> <li>• Decennial Logistics Management</li> <li>• Program Management</li> </ul> </td> </tr> </table>	<u>Test Focus Operation - Goals, Objectives, Success Criteria and Research Questions:</u> <ul style="list-style-type: none"> <li>• Address Canvassing</li> <li>• Internet Self-Response</li> <li>• Update Enumerate</li> <li>• Nonresponse Followup</li> </ul>	<u>Support Operations - with Goals, Objectives, Success Criteria and Research Questions:</u> <ul style="list-style-type: none"> <li>• Systems Engineering and Integration</li> <li>• Field Infrastructure</li> <li>• Non-ID Processing</li> </ul>	<u>Support Operations Only – Summary on how the operation will support the test:</u> <ul style="list-style-type: none"> <li>• Geographic Programs</li> <li>• Forms Printing &amp; Distribution</li> <li>• Paper Data Capture</li> <li>• Integrated Partnerships &amp; Communications</li> <li>• Census Questionnaire Assistance</li> <li>• Response Processing</li> <li>• Content and Forms Design</li> <li>• Language Services</li> <li>• Decennial Service Center</li> <li>• IT Infrastructure</li> <li>• Decennial Logistics Management</li> <li>• Program Management</li> </ul>
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Workloads	<p>HU count is about 123K          Estimated Self-Response workload 95,000 HU          Estimated UE Workload 28,000 HU          Estimated NRFU Workload ?</p>			

Overall Test Assumptions

Universe:

NOTE: The following is a modified list of the assumptions provided in the Address Canvassing Test GOSC.

1. The 2017 PRCT will occur in one site within the San Juan metro area of Puerto Rico (Carolina Municipio, Loíza Municipio, and Trujillo Alto Municipio)
2. The 2017 PRCT site will contain a variety of address styles, such as city-style addresses, non city-style address, and location descriptions
3. The 2017 PRCT site will contain a geographic area that has a high concentration of city-style addresses comparable to the San Juan Municipio used in the 2015 National Content Test.
4. The 2017 PRCT site will include a municipio that borders the coast.
5. The 2017 PRCT sites will not contain military areas.
6. The 2017 PRCT will use the Basic Collection Unit (BCU) as the unit of geography to organize and manage work assignments.
7. The 2017 PRCT Address File will be refreshed with the latest version of the Delivery Sequence File.

In-Office Address Canvassing Assumptions:

1. *In-Office Address Canvassing will review all BCU in the Puerto Rico Test, regardless of the Type of Enumeration Area.*

In-Field Address Canvassing Assumptions:

NOTE: The following list is a copy of the assumptions provided in the Address Canvassing Test GOSC.

1. In-Field Address Canvassing will be conducted using Corporate Listing and Mapping Solutions (LiMA), Mobile Case Management, MOJO and UTS (i.e., CEDCaP systems).
2. In-Field Address Canvassing data collection will be conducted using a smartphone device.
3. In-Field Address Canvassing will conduct a second canvass of selected BCUs to perform a rudimentary quality estimation on those BCUs. If a large discrepancy rate is found between the two listings on the same BCU, it may imply one of the two listings was of poor quality, or the block was difficult to list. This information may be of use when resolving discrepancies between In-Office Address Canvassing and In-Field Address Canvassing.
4. In-Field Address Canvassing will not collect feature updates.
5. In-Field Address Canvassing results will update the MAF/TIGER database.

Other Address Canvassing Assumptions:

NOTE: The following list is a copy of the assumptions provided in the Address Canvassing Test GOSC.

1. In-Office Address Canvassing and In-Field Address Canvassing will inform the same management reporting system.
2. The Address Canvassing Integrated Product Team will review lessons learned from previous census tests and use them to guide the planning for the test if appropriate.

Internet Self-Response:

1. Combining concepts from the Self-Response Contact Strategy to create the 2017 Puerto Rico Census Update Enumerate contact strategy .
2. We will mail to addresses in the three Municipios that are deemed sufficient to mail out..
3. We will deploy both an Internet Push and Internet Choice strategy in the areas designated as " Self-Response"

	<ol style="list-style-type: none"> <li>4. Mailing package will provide both the Test Census URL and phone number for Census Questionnaire Assistance (CQA)</li> <li>5. UE Mailing package will include a paper questionnaire</li> <li>6. Notice of Visit form will provide both the Test Census URL and phone number for CQA</li> </ol> <p><u>Update Enumerate:</u></p> <ol style="list-style-type: none"> <li>1. Combining concepts from the 2010 Census Update/Leave and 2010 Census Update Enumerate operations to create a new operation for the 2020 Census.</li> <li>2. No In-Field Address Canvassing for Update Enumerate areas.</li> <li>3. We will mail to all addresses deemed sufficient to mail out.</li> <li>4. Input (i.e., frame) will have gone through Coding Accuracy Support System (CASS) UE certification to determine which addresses are mailable/deliverable.</li> <li>5. Mailing package will provide both the Test Census URL and phone number for Census Questionnaire Assistance (CQA).</li> <li>6. Notice of Visit form will provide both the Test Census URL and phone number for CQA</li> <li>7. Will use Nonresponse Followup (NRFU) business rules for contact strategies.</li> <li>8. Will NOT use administrative records and third party data to remove vacant or occupied units.</li> <li>9. Implement reinterview process</li> <li>10. In-Office Address Canvassing will occur prior to the UE Operation.</li> <li>11. Listing and enumeration data collection applications both collect Global Positioning System (GPS) coordinates and metadata to enable Geography Division (GEO) post process</li> <li>12. Use similar training, procedures and application used by NRFU to complete the “E” in UE.</li> <li>13. Use similar training, procedure and application used by Address Canvassing for the “U” in UE</li> <li>14. In UL areas, we will link a questionnaire “code” to the address in the LiMA. Goal is to establish an ID’d response.</li> <li>15. In UE areas, we will link the Notice of Visit “code” to the address in the LIMA. Goal is to establish an ID’d response.</li> <li>16. If we encounter Group Quarters (GQs) or Transitory Locations (TLs), they will be classified as such; no attempt will be made to enumerate these unique situations in this test.</li> <li>17. Use of the dangerous known address database is out of scope for this test.</li> </ol> <p><u>Nonresponse Followup:</u></p> <ol style="list-style-type: none"> <li>1. We will be using the Contact Strategies from the 2016 Census Test with the following changes:</li> <li>2. We are not be using Administrative Records in the Puerto Rico test.</li> <li>3. The ability to add new non-id cases in the Field</li> </ol>
Site Selection Decision	Carolina Municipio, Loíza Municipio, and Trujillo Alto Municipio

## Test Focus Operations – Goals, Objectives, Success Criteria, Research Questions

Goals	Objectives	Success Criteria (should be quantifiable)	Research Questions Identify which are implementation vs research questions?
<b>Address Canvassing</b> (Evan Moffett and Karen Owens)			
Measure the effectiveness of In-Office Address Canvassing.	<ul style="list-style-type: none"> <li>• Implement In-Office Address Canvassing processes. Including:                             <ul style="list-style-type: none"> <li>○ Interactive Review</li> <li>○ Active Block Resolution (ABR)</li> <li>○ MAF Update</li> <li>○ Identification of the In-Field Address Canvassing workload</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Update the MAF.</li> <li>• Collect production metrics</li> <li>• Make use of resources provided by local governments and commercial third party data.</li> <li>• Collect data to directly compare In-Office to In-Field Address Canvassing results.</li> <li>• Collect data to determine if the identification of the In-Field Address Canvassing workload was accurate.</li> </ul>	<ul style="list-style-type: none"> <li>• How accurate are the results from In-Office Address Canvassing relative to In-Field Address Canvassing?                             <ul style="list-style-type: none"> <li>○ Did In-Office Address Canvassing miss housing units that In-Field Address Canvassing identified? What types of units were missed (e.g., multi-units, trailers)?</li> <li>○ Did In-Office Address Canvassing identify housing units that In-Field Address Canvassing missed? What types of units?</li> <li>○ Did In-Field Address Canvassing take actions (adds, deletes, changes, moves) that appear to be consistent with other sources of data (e.g., DSF status, GSS-I local file update status)?</li> </ul> </li> <li>• Can we identify the kinds of housing situations in which In-Office Address Canvassing performs as or more effectively than In-Field Address Canvassing and vice versa?</li> <li>• Did In-Office Canvassing accurately identify the BCUs that required In-Field Address Canvassing work?</li> </ul>
Assess management of Address Canvassing using the NRFU approach to alerts.	Refine and expand alerting capabilities related to In-Field Address Canvassing activities.	Newly developed alerts are deemed effective. Refinements to existing alerts are deemed potentially effective.	What are the most effective set of alerts for field supervisors to stay aware of potential issues in the Address Canvassing operation?

## Test Focus Operations – Goals, Objectives, Success Criteria, Research Questions

Goals	Objectives	Success Criteria (should be quantifiable)	Research Questions Identify which are implementation vs research questions?
<b>Update Enumerate</b> (Evan Moffett and Shawn Hanks)			
Integration of listing and enumeration operations and systems.	<ul style="list-style-type: none"> <li>Design a data collection operation that leverages capabilities designed to support Address Canvassing and NRFU.</li> </ul>	<ul style="list-style-type: none"> <li>Field work was not affected by system hand-offs.</li> <li>Quality of the collected data met or exceeded that of the 2010 data.</li> <li>Cases were routed appropriately and the correct collection instrument was used.</li> </ul>	<ul style="list-style-type: none"> <li>Are data able to flow efficiently through the systems?</li> <li>Were Living Quarters (LQs) enumerated using the correct instrument?</li> </ul>
Integration of listing and enumeration operations and systems.	<ul style="list-style-type: none"> <li>Integrate multiple information technology applications (LiMA, MCM, MOJO, MOCS,field data collection instrument) to create one seamless operational data collection, control, and management system.</li> <li>Deploy a system that can remove cases from the Enumeration universe if they have responded using an ID during Self-Response.</li> <li>Deploy a system that can remove cases from the Enumeration universe if they have responded through Non-ID and were matched to an UE case.</li> </ul>	<ul style="list-style-type: none"> <li>The appropriate data were passed from system to system in order to implement both the listing and enumeration functions of UE.</li> <li>Households that self respond were removed from the Enumeration universe.</li> </ul>	<ul style="list-style-type: none"> <li>Are data able to be passed between all systems in support of a successful UE Operation?</li> <li>Were cases successfully removed from the Enumeration Universe if they responded via Self Response and Non-ID?</li> </ul>
Integration of listing and enumeration and operations systems.	Collect operational paradata to inform operational improvements for the 2018 End to End Test.	<ul style="list-style-type: none"> <li>Data are summarized to inform field cost factors for future budget estimation.</li> </ul>	<ul style="list-style-type: none"> <li>How long did an assignment take to complete?</li> <li>How long did interviews take to complete?</li> <li>How much did the operation cost?</li> </ul>

## Test Focus Operations – Goals, Objectives, Success Criteria, Research Questions

Goals	Objectives	Success Criteria (should be quantifiable)	Research Questions Identify which are implementation vs research questions?
Building on previous test experiences specific to NRFU evaluate the impacts on cost and quality of the UE contact strategy on enumerator productivity and efficiency.	<ul style="list-style-type: none"> <li>Collect data associated with enumerator productivity, efficiency, and case outcomes to enable an assessment of the UE contact attempt strategy</li> <li>Collect data on case outcomes to evaluate the unresolved rate (cases that reach maximum contact attempts without a successful respondent or proxy provided enumeration) using the UE contact attempt strategy.</li> </ul>	<ul style="list-style-type: none"> <li>The 2017 Census Test data analysis of enumerator efficiency and productivity parameters – when applied to the 2020 Census cost model – enables an understanding of the projected UE costs against cost avoidance targets.</li> </ul>	What effects do enhancements to the enumeration application and an across the UE contact attempt have on enumerator efficiency and productivity?
Test continued refinements to the field data collection instrument for enumeration.	Test modifications and improvements to the field data collection instrument based on results of the 2016 Census Test, etc.	Modifications to the data collection instrument allow effective and efficient field data collection for UE enumerators.	<ul style="list-style-type: none"> <li>Are the proposed changes to the data collection instrument viable in field enumeration environment?</li> </ul>
Allow the collection of data from the ‘other’ address of in-movers and whole household usual home elsewhere cases.	To allow the collection of data from addresses that are not present in an enumerator’s case list.	UE field staff can effectively collect data from in-mover and whole household usual home elsewhere cases, in addition to the collection of status and enumeration of the original case address.	Can the collection of this supplemental data be effectively be built into the pathing of our data collection instrument?

## Test Focus Operations – Goals, Objectives, Success Criteria, Research Questions

Goals	Objectives	Success Criteria (should be quantifiable)	Research Questions Identify which are implementation vs research questions?
Field test continued refinements to field operational procedures.	<ul style="list-style-type: none"> <li>Test modifications and improvements to our processes for streamlining contact procedures for multi-units and gated communities.</li> <li>Develop and implement standard field procedures for handling dangerous addresses.</li> </ul>	<ul style="list-style-type: none"> <li>Field staff can successfully and effectively contact multi unit and gated communities while minimizing respondent burden.</li> <li>A mechanism will exist for field staff to handle dangerous addresses.</li> </ul>	<ul style="list-style-type: none"> <li>How can we streamline our field contact procedures for multi-units and gated communities?</li> <li>Can we operationalize the enumeration process for potentially dangerous addresses?</li> </ul>
Field test continued enhancements to our field staffing ratios.	Further investigate the staffing ratios for LSO and FMO to enumerators, etc.	Staffing ratios of enumerators to supervisors are validated as feasible during field operations.	What is the most optimal staffing ratio of field enumerators to supervisors for the UE operation?
Field test refinements to alerts from the operational control system	Further refine and expand alerting capabilities.	Newly developed alerts are deemed effective. Refinements to existing alerts are deemed potentially effective.	What are the most effective set of alerts for field supervisors to stay aware of potential issues in the UE field operation.
<b>Internet Self-Response</b> (Jason Reese)			
Deploy two panels in the Self-Response areas: Internet Push and Internet Choice	Continue the testing for Puerto Rico that began in the 2015 National Content Test (NCT) to determine if Internet Push is viable for 2020.	We want to reduce the difference found in the 2015 NCT.	What is the difference in response rates between the two contact strategies in a test with awareness and through a more saturated mailout?
Deploy the U/E contact strategy in Puerto Rico	Conduct the testing of the U/E contact strategy in Puerto Rico and address the different use of Post Office or community mail drops (prevalent in PR)		What is the self response rate for U/E areas?

## Test Focus Operations – Goals, Objectives, Success Criteria, Research Questions

Goals	Objectives	Success Criteria (should be quantifiable)	Research Questions Identify which are implementation vs research questions?
Develop the URL, landing page, and path navigation for Primus which is inclusive for Puerto Rico self respondents to access	Introducing the Internet in Puerto Rico requires consideration of search and use of the URL as well as navigation into a path for address data collection (for non-ID and coverage questions). We will continue to adapt Primus (different from the NCT Centurion application)	Reduce confusion and calls to TQA.	Qualitative feedback on our implementation
<b>Nonresponse Followup</b> (Maryann Chapin and Josh Latimore)			
	<b>Reengineered Field Operations -- Maryann Chapin</b>		
Continue refining reengineered field operations.  Improve efficiency and effectiveness of staff and workload management.	<ul style="list-style-type: none"> <li>Incorporate streamlined contact procedures for multi-units.</li> </ul>	<ul style="list-style-type: none"> <li>We successfully contact multi unit addresses and minimize the respondent burden.</li> <li>Procedures of contacting building managers first minimized respondent burden</li> </ul>	<ul style="list-style-type: none"> <li>How can we streamline the contact procedures for multi-units in order to incorporate the optimization strategy? (Technical Implementation).</li> </ul>
Continue refining reengineered field operations.  Improve efficiency and effectiveness of staff and workload management.	<ul style="list-style-type: none"> <li>Incorporate procedures and questionnaire enhancements for situations other than a face-to-face contact with household member or proxy?</li> </ul>	<ul style="list-style-type: none"> <li>COMPASS question paths guide the user through special situations with minimal training required. No more than one day of in-class training.</li> </ul>	<ul style="list-style-type: none"> <li>What procedures and questionnaire enhancements need to be in place for situations other than a face-to-face contact with household member or proxy? These include situations such as apartment labeling problems, not housing unit situations, refusal situations, in-mover and out-mover? (Technical Implementation)</li> </ul>

## Test Focus Operations – Goals, Objectives, Success Criteria, Research Questions

Goals	Objectives	Success Criteria (should be quantifiable)	Research Questions Identify which are implementation vs research questions?
<p>Continue refining reengineered field operations.</p> <p>Improve efficiency and effectiveness of staff and workload management.</p>	<ul style="list-style-type: none"> <li>• Lessons learned from 2015 &amp; 2016 Census Test results including such things as:                             <ol style="list-style-type: none"> <li>a. Addition of validation rules on certain fields, such as e-mail address, ZIP code, etc.</li> <li>b. Updating help screens and descriptions.</li> <li>c. Changing the way certain behind the scenes variables are set in the course of the interview, like UNIT STAT, the status assigned to a housing unit.</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>• Lessons learned from the 2015 &amp; 2016 Census Test are incorporated.</li> </ul>	<ul style="list-style-type: none"> <li>• Can lessons learned from 2015 and 2016 Census Test be incorporated? (Technical Implementation).</li> </ul>
<p>Continue refining reengineered field operations.</p> <p>Improve efficiency and effectiveness of staff and workload management.</p>	<ul style="list-style-type: none"> <li>• Incorporate procedures and questionnaire enhancements for proxy visits</li> </ul>	<ul style="list-style-type: none"> <li>• Proxy procedures increase completion rates and reduce multiple visits to the same proxy</li> </ul>	<ul style="list-style-type: none"> <li>• What procedures and questionnaire enhancements need to be in place for more efficient proxy interviews and attempts? (Technical Implementation)</li> </ul>
<p>Continue refining reengineered field operations.</p> <p>Improve efficiency and effectiveness of staff and workload management.</p>	<ul style="list-style-type: none"> <li>• Incorporate further reporting, roll-ups to higher levels (e.g., AOSC, RCC, HQ), and dashboard capabilities into MOJO.</li> </ul>	<ul style="list-style-type: none"> <li>• Reporting and dashboard capabilities are incorporated into MOJO.</li> </ul>	<ul style="list-style-type: none"> <li>• Can reporting and dashboard capabilities be incorporated into MOJO?</li> </ul>
<p>Continue refining reengineered field operations.</p> <p>Improve efficiency and effectiveness of staff and workload management.</p>	<ul style="list-style-type: none"> <li>• Further refine and expand alerting capabilities (production and QC).</li> </ul>	<ul style="list-style-type: none"> <li>• Alerting capabilities are expanded and refined.</li> </ul>	<ul style="list-style-type: none"> <li>• Can alerting capabilities be expanded and refined?</li> </ul>

## Test Focus Operations – Goals, Objectives, Success Criteria, Research Questions

Goals	Objectives	Success Criteria (should be quantifiable)	Research Questions Identify which are implementation vs research questions?
Validate assumptions associated with key NRFU cost parameters.	<ul style="list-style-type: none"> <li>To capture additional data points in the 2016 Census Test that enable an understanding of NRFU cost parameters such as: late self-response rates (prior to and after the start of NRFU), NRFU workload completion rates by contact attempt, enumerator efficiency, staffing ratios, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Data resulting from the Puerto Rico Census Test produce data points for key NRFU cost parameters.</li> </ul>	
Building on 2015 Census Test experiences, evaluate the impacts on cost and quality of a NRFU contact strategy that allows for a maximum of six contact attempts (proxy eligible on the third attempt) in combination with added enumeration application (COMPASS) capabilities and enhancements (such as handling noninterviews and proxies) that could impact enumerator productivity and efficiency.	<ul style="list-style-type: none"> <li>Collect data associated with enumerator productivity, efficiency, and case outcomes to enable an assessment of a six contact attempt strategy in combination with enhancement enumeration application capabilities</li> <li>Collect data on case outcomes to evaluate the unresolved rate (cases that reach maximum contact attempts without a successful respondent or proxy provided enumeration) using a six contact attempt strategy.</li> </ul>	<ul style="list-style-type: none"> <li>The 2016 Census Test data analysis of enumerator efficiency and productivity parameters – when applied to the 2020 Census cost model – enables an understanding of the projected NRFU costs against cost avoidance targets.</li> <li>A reduction in the unresolved rate (compared, in general, to the 2015 Census Test unresolved rate where the number of contact attempts varied by block group).</li> </ul>	<ul style="list-style-type: none"> <li>What impact does an across the board maximum of six contact attempts have on reducing the unresolved rate?</li> <li>What effects do enhancements to the enumeration application and an across the board maximum of six contact attempts (proxy eligible on the third attempt) have on enumerator efficiency and productivity?</li> </ul>
<p><u>UE and NRFU</u></p> <p>Allow the collection of data from the ‘other’ address of in-movers and whole household usual home elsewhere cases.</p>	<ul style="list-style-type: none"> <li>To allow the collection of data from addresses that are not present in an enumerator’s case list.</li> </ul>	<ul style="list-style-type: none"> <li>UE field staff can effectively collect data from in-mover and whole household usual home elsewhere cases, in addition to the collection of status and enumeration of the original case address.</li> </ul>	<ul style="list-style-type: none"> <li>Can the collection of this supplemental data be effectively be built into the pathing of our data collection instrument?</li> </ul>

**Test Focus Operations – Goals, Objectives, Success Criteria, Research Questions**

Goals	Objectives	Success Criteria (should be quantifiable)	Research Questions Identify which are implementation vs research questions?
Test running separate operations in SMarCS	<p><b>Reengineered Quality Control -- RJ Marquette</b></p> <ul style="list-style-type: none"> <li>SMaRCS can handle multiple field operations simultaneously without interference</li> </ul>	<ul style="list-style-type: none"> <li>The test is completed with no corruption/confusion of data from NRFU and UE within SMarCS.</li> </ul>	<ul style="list-style-type: none"> <li>Implementation question – Can SMarCS safely handle multiple operations simultaneously?</li> </ul>

## Support Operations – with Goals, Objectives, Success Criteria and Research Questions

Goals	Objectives	Success Criteria	Research Questions
<b>Systems Engineering and Integration</b> (Pete Boudriault)			
Gain experience moving to new IT infrastructure – cloud computing	<p>The internet self-response, the real-time non-id processing and the on-line recruiting, application and self-assessment systems will be hosted in a commercial cloud.</p> <p>Census will obtain metrics regarding cost versus performance as a result of the testing to inform decisions regarding future cloud implementation, our ability to scale nationally for 2020, etc.</p>	<p>Cloud implementation performs as well as the 2015 DMZ-based solution, and scales as needed to meet demand.</p> <p>Sufficient data are collected to inform subsequent cloud solution implementation planning (e.g., design, cost estimation, etc.)</p>	<p>Can the internet self-response and real-time non-id processing systems be supported in a cloud environment?</p> <p>Does the cloud computer platform meet Census Bureau and Federal IT security regulations?</p> <p>Does a cloud-based implementation facilitate scalability in a cost-effective way?</p>
Gain experience moving to new IT infrastructure – services	Implement fingerprinting-as-a-service.	Fingerprinting-as-a-service meets all functional and non-functional requirements.	<p>Is fingerprinting-as-a-service a cost effective solutions?</p> <p>Can fingerprinting-as-a-service integrate effectively with Census operations and systems?</p>
Ensure the integration of new systems in to the Field Test that will support the 2020 Census.	<p>Integrate the following new systems in to the Test:</p> <ul style="list-style-type: none"> <li>- CAES</li> <li>- eCorrespondence</li> <li>- Enumeration (depending on results of CEDCaP Analysis of Alternatives)</li> <li>- CQA</li> <li>- Pearsis</li> <li>- CEDSCI?</li> </ul>	Each new system meets all functional and non-functional requirements in support of the Test.	

## Support Operations – with Goals, Objectives, Success Criteria and Research Questions

Goals	Objectives	Success Criteria	Research Questions
<b>Field Infrastructure</b> (Alexa Jones-Puthoff and Shawn Ray)			
The Field Infrastructure operation performs the following functions: <ul style="list-style-type: none"> <li>• Coordinate space acquisition for, and lease management of, the RCC and Area Census Offices.</li> <li>• Provide the administrative infrastructure for data collection covering the 50 states, the District of Columbia, and Puerto Rico including: Recruiting.                             <ul style="list-style-type: none"> <li>○ Hiring and onboarding.</li> <li>○ Personnel and payroll administration.</li> <li>○ Training.</li> <li>○ Partnership support.</li> <li>○ Management and supervision.</li> <li>○ Clerical support.</li> <li>○ Materials supply.</li> <li>○ Printing and plotting.</li> </ul> </li> </ul>			
Identify applicants from Puerto Rico and provide the job application and assessment in Spanish.	Test the capability to identify applications as being from Puerto Rico and provide these applicants with a Spanish version of the job application and skills assessment.	Applicants in Puerto Rico are accurately identified and provided the Spanish Version of the job application and assessment.	
Provide an alternative (to stateside) flow for applicants who choose to apply using the Spanish job application and assessment.	Ensure applicants for positions that require proficiency in both Spanish and English are provided with the option to complete the English Proficiency Test.	Applicants for positions that require applicants to be bi-lingual (English and Spanish) in Puerto Rico are accurately identified and provided the English Proficiency Test.	
Test the use of an online application to replace the paper job application for decennial Area Operations Support Center positions, including the Recruiting Assistant, Clerk, Office Operations Supervisor, Partnership Assistant, Census Field Supervisor (formerly Local Supervisor of Operations), and Enumerator.	Determine the extent to which applicants are successful or need support in completing the online job application process, including creating accounts using the identity management solution.	Applicants successfully create user accounts for CARAT.	

## Support Operations – with Goals, Objectives, Success Criteria and Research Questions

Goals	Objectives	Success Criteria	Research Questions
Test the use of an online skills assessment to replace the use of a proctored test for decennial Area Operations Support Center positions, including the Recruiting Assistant, Clerk, Office Operations Supervisor, Partnership Assistant, Census Field Supervisor (formerly Local Supervisor of Operations), and Enumerator.	Determine the impact of the online job application and online skills assessment process on the jobs of the recruiting staff, especially the Recruiting Assistants.	Applicants successfully complete the online job application in English.	
Continue to validate the content of the skills assessments that the Office of Personnel Management has created to replace the paper employment test that has been used for several censuses and census tests this decade.	Utilize the census test environment to determine priorities for adding additional functionality to the online job application and assessment process.	Applicants successfully complete the online skills assessment.	
Provide support for job applicants needing assistance completing the job application and skills assessment.	Utilize the test environment to learn more about supporting job applicants in completing the online job application and skills assessment.	Information is gathered on the impact of the online job application and assessment on the jobs of recruiting staff, especially the Recruiting Assistant.	
Test the use of identity management process (process by which applicants will create an account to being the application process).	Utilize the census test to field test the use of identity management for job applicants.	Applicants are successfully supported in completing the online job application process.	
Test interfaces between the online job application and skills assessment components of CARAT and other systems including DAPPS and the identity management system.	Utilize the census test to field test and continue to validate the new skills assessments.	Data, information, and lessons learned are gathered about the need to support job applicants in completing the application process online.	
Eliminate paper as a mode of job application process to the fullest extent possible.	Utilize the census test to field test the interfaces between CARAT components, DAPPS, and the identity management process.	Information and lessons learned are gathered to inform the need to add additional functionality to support the online job application and assessment processes  Interfaces between CARAT and other systems are	

## Support Operations – with Goals, Objectives, Success Criteria and Research Questions

Goals	Objectives	Success Criteria	Research Questions
		tested and lessons learned are captured	
Determine what additional functionality should be added to the job application and assessment process to make it more successful for use in the 2020 Census.	Utilize the census test to help determine the level of need for a paper job application process.	Information is gathered on the extent to which the paper job application process was utilized.  Information and data are gathered to assist OPM in further validating the skills assessments.	
Provide a Spanish version of the online job application and assessment for stateside applicants.	Test the workflow for applicants who choose to apply using the Spanish job application and assessment (including testing the use of the English Proficiency Test).	Applicants to who choose to apply using the Spanish skills assessment are successfully routed to take the English Proficiency Test.	
Validate the effectiveness of using Third Party Vendors for onboarding applicants	Third Party Vendor will interface with the Census badging system to provide digital photos of applicants Third Party Vendor will interface with CHEC for background investigations Fingerprint all eligible applicants Administer the oath of office to all employees Process applicants background forms and send to appropriate staff	Effectively receive electronic fingerprints, application forms, and photographs from Third Party Vendor Fingerprints are sent to FBI Raps Sheets are received from FBI	Who is expected to complete the I-9 Form or where in the onboarding process should the I-9 be completed What forms will Third Party Vendors process Can Third Party Vendors legally administer the oath of office Who determines the applicant suitability Can Third Party Vendors conduct onboarding operations in Tribal areas
Test training methods to train enumerators and LSOs to effectively conduct NRFU	Evaluate the effectiveness of Enumerator and LSO Online training Evaluate the effectiveness of Enumerator Classroom training utilizing LSOs who will be trained on facilitation skills Evaluate the effectiveness of LSO Classroom training utilizing FMOs will be trained on facilitation skills and subject matter Implement and evaluate Online Simulated	Enumerators and LSO demonstrate acquisition and application of knowledge and skills to perform at desired level.	To what degree enumerators and LSOs react favorably to the Online and Classroom training To what degree enumerators and LSOs acquire the intended knowledge and skills based on their participation in the Online and Classroom training To what degree enumerators and LSOs apply what they learned during training when they are on the job To what degree a simulated respondent interview

## Support Operations – with Goals, Objectives, Success Criteria and Research Questions

Goals	Objectives	Success Criteria	Research Questions
	Respondent		self-assessment tool can predict enumerator on the job performance To what degree live case practice builds job confidence for enumerators and LSOs
<b>Non-ID Processing</b> (Evan Moffett and Frank McPhillips)			
Conduct Real Time Non-ID Processing (RTNP)	Implement real-time address processing (standardization, MAF matching, geocoding) for Puerto Rico addresses	<u>Maximize matching</u> of Non-ID respondent-provided addresses to a valid address record in the Census universe during real time processing	What were the results from real-time matching and geocoding Puerto Rico addresses during self-response?
Conduct post-RTNP automated matching and geocoding (also known as Asynchronous Non_ID Processing)	Utilize administrative records data to enhance respondent-provided address data, and then make a further attempt to match to a MTdb record and/or derive a census block geocode. This will occur on a transactional basis for each case not matched during RTNP (i.e., individually, not in batches).	Additional Non-ID responses are matched to MTdb records and/or assigned to census blocks	<ul style="list-style-type: none"> <li>What were the results from Asynchronous Non-ID Processing (e.g., how many additional matches and geocodes were derived)?</li> </ul>
Conduct manual Non-ID processing concurrent with self-response processing	Complete all outstanding stateside manual processing before the first NRFU and U/E workload cut, and to keep up with daily turnaround once NRFU and U/E starts (this will simulate a 2020 environment where Non-ID is reducing field enumeration workload as quickly as possible).	Manual processing catches up with the backlog of cases not resolved during automated processing by the time the initial NRFU cut is taken. This will give us a measure of how much Non-ID can reduce the NRFU workload before the operation even starts.	<ul style="list-style-type: none"> <li>What additional matches were derived during manual Non-ID processing that reduced the NRFU and UE workloads (e.g., how many, geographic distribution, address characteristics, etc.)</li> <li>What additional/updated geocodes were derived during manual processing?</li> </ul>
Conduct office-based address verification (OBAV) for eligible Non-ID cases	Attempt to verify the existence and census block location of all eligible addresses from Non-ID processing using geographic reference sources in an office-base environment in order to reduce field verification workload.	<ul style="list-style-type: none"> <li>Maximize the number of addresses verified for eligible Non-ID cases in the office-based operation</li> </ul>	<ul style="list-style-type: none"> <li>How many of the Non-ID cases eligible for address verification could be verified in an office-based operation?</li> <li>How does the verification rate for Stateside addresses during previous Census Tests (2015-2016) compare to the rate for Puerto Rico</li> </ul>

## Support Operations – with Goals, Objectives, Success Criteria and Research Questions

Goals	Objectives	Success Criteria	Research Questions
			addresses from this test?
Provide workload for Field Verification Operation	Identify the field address verification workload to be sent out during NRFU. In addition, after the initial workload is identified, the office-based address verification operation (OBAV) keeps up with the daily workload to identify any new field address verification cases on a case-by-case basis (e.g., as OBAV staff determines that a case cannot be resolved, it is reported to MOCS, and the case can be directed to the field for verification efforts.	Office-based verification keeps up with the backlog of cases in time to identify the bulk of Non-ID field address verification work by the time the initial NRFU workload is established.	How many of the addresses sent to the field were verified? How many were duplicates of existing MAF units? How many were deleted (not found)? How many were incorrectly geocoded during Non-ID Processing (e.g. were assigned to the wrong block)?
Test Multiple Response Validation methodologies	<p>Multiple respondent validation methods utilized to permit us to evaluate them before the 2018 End-to-End Test. This may include the use of AdRecs as well as other methods determined by the Non-ID Response Validation subteam.</p> <p><b>Note:</b> <i>We are presenting a DBP and Charter to PMGB for Non-ID Response Validation on May 4. Once we get the green light on the scope, etc., we can expand on the other methods we will be utilizing (e.g., fraud detection through IT solutions, trend analysis during post processing, etc.) However, it would be premature to state them until we have an approved charter.</i></p>	Respondent validation methods are implemented during the test at a sufficient scale to compare them (e.g., we get enough responses, and enough of them validated through the respective methods).	<p>Do other respondent validation methods provide similar results to CARRA’s AdRec matching process?</p> <p>Do other methods derive additional matches/validation that would fill any “gaps” in the CARRA process?</p>

## Support Operations Only – Summary of How the Operation will Support the Test

### Security, Privacy and Confidentiality (Pete Boudriault and Rainier Suazo-Munoz)

The Security, Privacy, and Confidentiality operation ensures that all operations and systems used in the 2020 Census adhere to the following policies and regulations:

- Appropriate systems and data security.
- Respondent and employee privacy and confidentiality.
- IRS requirements concerning the use of Title 26 data.

### Content and Forms Design (Jenny Kim)

Content and Forms Design is responsible for creating, refining, and finalizing:

- Content specifications for all data collection modes (Internet, paper, Census Questionnaire Assistance, NRFU)
- Paper questionnaire design
- Pretesting of content
- Mailing and field materials

### Language Services (Jenny Kim)

The Language Services operation will perform the following activities:

- Assess and support language needs of non- English speaking populations.
- Determine number of non-English languages and level of support.
- Optimize non-English content of questionnaires and nonquestionnaire materials across data collection modes and operations.
- Ensure cultural relevancy and meaningful translation of questionnaires

## Support Operations Only – Summary of How the Operation will Support the Test

### Decennial Translation Office (Jason Kopp)

- Provide translation support to Field Infrastructure for the training materials, job application (both paper and online), and assessment
- Provide translation support to Content and Forms Design and Language Services for questionnaires and mailing materials
- Provide translation support to Integrated Partnership and Communications for materials and website
- Provide translation support to Response Processing
- Provide translation support to Census Questionnaire Assistance (CQA)

### Decennial Service Center (Raphael Corrado, Brian DeVos and Mark Markovic)

The overall goal of the 2020 Census DSC operation is the design and deployment of an integrated service center, which will support field operations and handle all help or service requests initiated by field staff, including Spanish speaking applicants and staff in Puerto Rico, during the 2020 Census. These services include the following:

- Password resets for all 2020 Census applications including LUCA.9
- Resolution of software and hardware issues from field offices and field staff, such as those experienced by users of the Decennial Applicant Payroll and Personnel System and mobile devices.
- Security incident management, such as petty theft, injuries, and stolen equipment.
- Communications to and from field offices to address such things as outages or software releases.

Major functions of the DSC include the following:

- Provide three major functions supporting 2020 Census Field Operations:
  - 1) Receive requests for service.
  - 2) Respond to requests for service.
  - 3) Report on requests for service.
- Provide Tier-1 support during the 2020 Census Tests. Tier-1 support will consist of resolving simple issues from the field in a specified period of time, such as password resets.
- Provide Tier-1 and Tier-2 support during the 2020 Census field operations. In addition to the Tier-1 support described above, Tier-2 support will consist of more complex issues requiring troubleshooting by specially trained staff with expertise in 2020 Census applications, such as MOJO, COMPASS, and Listing and Mapping Instrument.
- Provide Implement service-level agreements with Tier-3 support based on current operational standards of practice.
- Serve in a coordination and communication role in the event that a field office executes a Continuity of Operations Plan.
- Archive electronic records generated by the DSC in accordance with Census Bureau archiving policies.

## Support Operations Only – Summary of How the Operation will Support the Test

### **Decennial Logistics Management** (Alexa Jones-Puthoff and Shawn Ray)

Decennial Logistics Management will provide logistics management services including:

- procuring warehouse space,
- warehousing,
- inventory management,
- kit assembly,
- deployment of materials, and
- receiving and excessing materials.

### **IT Infrastructure** (Pete Boudriault, Doug Curtner, and Justin McLaughlin)

- MDM
- SunFlower
- Stand up a program-level data repository for administrative records - Gain experience moving to new IT infrastructure – administrative records
- Alternative NRFU Laptop Support – To assess laptop alternatives currently existing in the marketplace that could be explored by the agency for use by LSOs.
- Provide Fed Ramp certified cloud - The internet self-response (Primus), the real-time non-id processing (RTNP) and on-line recruiting, application and self-assessment (CARAT) systems will be hosted in a commercial, Fed Ramp, certified cloud.
- Implement device as a service - Gain experience moving to new IT infrastructure – services.
- Utilize an enterprise development, integration and test environment (EDITE) - Gain experience using an Enterprise shared service.  
The self-response data capture systems will support the language options for the Census Test self-response - Gain experience moving to new IT infrastructure.

## Support Operations Only – Summary of How the Operation will Support the Test

### Geographic Programs (Evan Moffett and Carrie Butifoker)

The Geographic Programs operation provides the geographic foundation in support of the 2020 Census data collection and tabulation activities within the Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) System. The MAF/TIGER System (software applications and databases) serves as the national repository for all of the spatial, geographic, and residential address data needed for census and survey data collection, data tabulation, data dissemination, geocoding services, and map production.

Components of this operation include:

- Geographic Delineations.
- Geographic Partnership Programs.
- Geographic Data Processing.
  - Site Selection
  - Maps
  - Address files
  - GRF-C
  - GRF-N

### Forms Printing and Distribution (Alexa Jones-Puthoff and Mark Matsko)

There are 11 different mailing labels for Puerto Rico.

The Forms Printing and Distribution operation prints and distributes the following paper forms to support the 2020 Census mailing strategy and enumeration of the population:

- Internet invitation letters.
- Reminder postcards.
- Questionnaire mailing packages.
- Materials for other special operations, as required.

## Support Operations Only – Summary of How the Operation will Support the Test

### **Paper Data Capture** (Alexa Jones-Puthoff, Mark Matsko, Karen Wyatt-Meyer and Ray Muenzer)

The Paper Data Capture operation captures and converts data from 2020 Census paper questionnaires. This operation includes:

- Document preparation.
- Scanning.
- Optical Character Recognition (OCR).
- Optical Mark Recognition (OMR).
- Key From Image (KFI).
- Editing and checkout.

### **Integrated Partnership and Communications** (Tasha Boone and Mary Bucci)

- Partnership Support – Conduct partnership surges in hard to count tracts
- CEM
- Statistics In Schools – Develop take home materials for students and parents
- Develop and use, culturally appropriate in-language materials (Spanish)
- Fully develop website in Spanish
- Provide communications support – stakeholder/oversight notification, press releases, events, social media, etc.
- Provide recruiting support

### **Census Questionnaire Assistance** (Alexa Jones-Puthoff and Kevin Zajac)

- For the 2017 Puerto Rico Test, CQA will include:
- Contractor-provided contact center infrastructure and staff to handle inbound assistance calls from respondents (no web chat or email capabilities in 2017)
- Assistance for respondents completing the Census questionnaire, including capturing responses
- Answering questions about Census processes and operations
- Interactive Voice Response (IVR) self service solutions to automate certain tasks

## Support Operations Only – Summary of How the Operation will Support the Test

### **Response Processing** (Raphael Corrado and Charles Fowler)

- Establish the testing enumeration universes
- Manage the enumeration strategies (i.e., contact strategy and followup approach)
- Distributes workload files required for enumeration operations
- Track enumeration status by case and support determining the course of enumeration based on established business rules.
- Perform required response data collection process editing and race/Hispanic origin coding
- Perform required post-data collection processing actions in order to prepare the data for for final decennial response file
- Perform required steps to create a Census Unedited File for data analysis purposes, including unduplicating data via the primary selection algorithm and performing count imputation.
- Serve as the final test data respository for input to required analysis