PREPARED STATEMENT OF

JOHN H. THOMPSON
DIRECTOR
US CENSUS BUREAU

2020 Census: Outcomes of the 2016 Site Test

Before the House Subcommittee on Government Operations
US House of Representatives

16 November 2016

Good morning Chairman Meadows, Ranking Member Connolly, and members of the Subcommittee. I appreciate the opportunity to update you on the 2020 Census. I am proud to report today that we are on time and on schedule.

In June, I testified to the Committee that we are on track to execute an innovative, efficient, and accurate 2020 Census. Since then I have appreciated the ability to engage further with you Chairman Meadows, as well as your staff and the minority staff, to further explain our exciting plans and progress to date. Today I would like to update the Subcommittee on the following topics pertinent to achieving this goal:

1. 2020 Census Goals and Operational Plan
2. CEDCaP Build vs. Buy Decision
3. Funding Uncertainty and Adjustment to Scope of 2017 Testing
4. 2020 Census Testing and Production
    - 2016 Census Test
    - In-Office Address Canvassing Operation
    - Address Canvassing Test
    - 2017 Census Test

    - 2018 End-to-End Census Test
5. Integrated Master Schedule
6. Systems Development and Operational Readiness
7. Significant Contract Awards
    - 2020 Census Questionnaire Assistance
    - 2020 Census Integrated Communications
    - 2020 Census Technical Integrator
    - Census Schedule A Human Resources Payroll System (C-SHaRPS)
    - Upcoming Contract Awards
8. Content
    - 2015 National Content Test
    - Tribal Consultations
    - Residence Criteria

2020 Census Goals and Operational Plan

When we designed the 2020 Census, we focused our initial efforts on areas that are the major cost drivers of the Census. With cost reductions in mind, we focused on four key innovation areas that will bring the greatest cost savings to the 2020 Census:

1. Reengineering Address Canvassing
2. Optimizing Self-Response
3. Utilizing Administrative Records and Third-Party Data
4. Reengineering Field Operations

As a result of our efforts, we estimated that the 2020 Census will cost $12.5 billion – compared with a cost of $17.8 billion for repeating the paper-and-pencil-based design of the 2010 Census – representing more than $5 billion in cost avoidance.

In October 2015, after four years of research and testing, we released the 2020 Census Operational Plan that documents the current design for conducting the 2020 Census. As the initial version of an emerging concept of operations, it reflects and supports evidence-based decision making by describing design concepts and their rationale, identifying decisions still to

be made, and describing significant issues and risks related to the implementation of the Operational Plan. An updated version of the Operational Plan was released on October 28, with updates to our planned tests and milestone schedule, program and project risks, descriptions of the census operations and decisions made, and the process for performing quality analysis.

The 2020 Census Operational Plan lays out a series of tests and decision points that the Census Bureau will make in the years leading up to the 2020 Census to develop innovative and efficient methods to increase the response rates, decrease the number of door-to-door interviews, raise workforce productivity, and streamline operations without sacrificing the accuracy of the Census. These changes have the potential to save taxpayer money, maintain accuracy, and reduce the burden on respondents. To achieve these benefits, the 2020 Census Program will rely on many of the systems covered by the Census Enterprise Data Collectiong and Processing (CEDCaP) approach as one key part of the overall 2020 Census Business Solution Architecture. Our CIO Kevin Smith will also discuss the readiness of these systems in his testimony.

CEDCaP Build vs. Buy Decision

The Census Bureau learned many lessons in systems development and readiness from failed efforts in 2010, and with the support of Congress has been able to develop and field test proof of concept systems as part of our series of Census Tests from 2012 through 2015 during our research and testing phase. As a result, we were able to craft a design by the end of 2015, before moving into developing robust capabilities, requirements, and business rules for our systems and operations, validated by the Census Tests conducted so far.

In May 2016, as we moved into our design implementation phase and after months of rigorous evaluation and analysis of alternatives, we made the decision to use a hybrid approach to delivering the CEDCaP solutions. We chose a commercial off-the-shelf platform integrated with select Census Bureau custom solutions that will optimally address the goal of successfully deploying an automated 2020 Census.

The resulting buy decision is helping to reduce risk for the 2020 Census and our other surveys and censuses by adopting proven technology and standards-based solutions to help deliver secure

systems and information. We selected an industry leading enterprise application development platform – the Pega 7 platform of Pegasystems, Inc. We are calling the Pega 7 platform implementation the Enterprise Censuses and Surveys Enabling platform, or ECaSE platform.

With the ECaSE team now onboard, we have been actively working to move from the vendor's prototype into an initial system that can be deployed for the first time in the 2017 census testing programs. We are also integrating the complete suite of 2020 Census systems with the platform.

We are transitioning to the new ECaSE platform by configuring the needed applications using the validated requirements, capabilities and business rules. Proven requirements will be translated into applications during 2017 using agile development to provide fully functional applications well ahead of the 2018 End-to-End Census Test.

Additionally, we have brought in expert help through the recently awarded technical integrator contract to aid with the integration of our full system of systems, discussed in detail below in this testimony. Having a fully integrated system of systems ahead of the 2018 End-to-End Census Test is key to our 2020 Census readiness and risk mitigation. We have built and continue to maintain a comprehensive Integrated Master Schedule that allows us to ensure we are on track for systems and operational readiness for the 2018 End-to-End Census Test. We will discuss this schedule in more detail below.

Funding Uncertainty and Adjustment to Scope of 2017 Testing

We are now less than one year from beginning field work on the final major test for the 2020 Census – the 2018 End-to-End Census Test – but there is not yet clarity regarding funding for this program for fiscal year 2017.

Despite this being a critical point in the decade for testing and implementing the design of the 2020 Census, the current House and Senate fiscal year 2017 appropriations marks from the spring of 2016 fund the program at 16 and 9 percent below the President's Budget respectively. The House funding level, just 5 percent above FY 2016, nearly eliminates funding requested in FY 2017 to fully implement the innovative design decisions that will help save an estimated $5.2 billion relative to repeating last decade's methods. This would be the fifth consecutive year that

the program has received appropriations significantly below the request, and we are at a point where there is a significant cost to continuing to defer work.

To address the immediate risks of this funding uncertainty, we announced on October 18 the difficult but necessary decision to stop work on two planned field test operations in 2017 on two tribal reservations – one in Washington State and the other in North and South Dakota – and in three municipios in Puerto Rico in order to prioritize funding resources on higher priority activities key to readiness for the 2018 End-to-End Census Test. Having now been forced to move these tests out of FY 2017, these these sites will be considered for potential inclusion in the 2018 End-to-End Census Test. However, incorporating these into the 2018 End-to-End Census Test increases the operational risk to both the 2018 End-to-End Census Test and the 2020 Census. In 2017, we are replanning the 2017 Census Test to focus only on the activities we must test – internet self response, non-ID processing, the use of cloud technology, and Census Questionnaire Assistance, as well as completing all of the systems development and integration required for readiness for the 2018 End-to-End Census Test.

The Census Bureau made this decision now to mitigate funding uncertainty risk to the program and ensure readiness for a highly successful 2018 End-to-End Census Test, but we still require the timely appropriation of the remainder of the 2017 President's Budget request in order to stay on track.

Let me turn to discuss some of recent and upcoming tests as well as our key production activities.

2020 Census Testing and Production

2016 Census Test

As I have already mentioned, the Census Bureau is pursuing four key innovation areas that will make it easier for people to respond and save taxpayers more than $5 billion. Conducting a decennial census is a major undertaking with many moving parts. As we implement the operational design for the 2020 Census, we are leveraging new methods, procedures, systems, and solutions. Census tests are critical to preparing for 2020 because that is how we test the implementation of these innovation areas.

Earlier this year, we conducted a test in Harris County, Texas, and Los Angeles County, California, to study a variety of new methods and advanced technologies. The primary focus of this test was to refine the methodology for Nonresponse Followup – the operation we conduct to visit nonresponding households in person. The Census Bureau also refined methods and related activities for maximizing self-response (particularly via the Internet) to the 2020 Census. We focused testing on six operations: the questions on the 2020 Census questionnaire (content and forms design), language services, Internet self-response, allowing individuals to respond without a Census ID (non-ID processing), Nonresponse Followup, and how we process, store, and protect the data we collect from respondents (response processing)

The 2016 Census Test was a valuable learning experience, with many notable successes, including but not limited to:

- Our self-response contact strategy demonstrated a positive impact on response rates through the use of a letter rather than a postcard as a first reminder and through the use of language services such as a brochure or Frequently Asked Questions insert. In addition, the 2016 Census Test results reinforced that in some areas of the country response rates improve when we send a paper questionnaire in the first mailing.
- We validated the positive trend we have experienced in past census tests regarding collecting and processing responses without unique Census IDs, confirming our ability to successfully match a large majority of respondent addresses to our frame through real-time matching, administrative records, and clerical matching.
- Our partnership presence in the test sites generated awareness and encouraged response during both the self-response and Nonresponse Followup phases.
- We successfully expanded language support services, including Chinese and Korean (languages using non-Roman alphabets).
- Administrative records and third-party data reduced the Nonresponse Followup workload for both vacant and occupied addresses.
- Collaboration with the United States Postal Service (USPS) furthered our understanding of USPS processing of mail pieces, specifically Undeliverable As Addressed, or the

USPS-provided reason for why mail is unable to be delivered. This helped inform our assessment of vacancy status to reduce the Nonresponse Followup workload.

- Implementation of two different staffing ratios that increased the number of enumerators to each supervisor over that of the 2010 Census were both shown to be viable, due to increased automation of operational control capabilities and system generated alerts regarding enumerator performance, automated payroll submission and processing, etc.
- We improved use of optimized assignment generation and routing of enumerators and use of smartphones by enumerators for data collection.
- We added quality control by re-contacting a sample of Nonresponse Followup cases to validate the data collection in the initial Nonresponse Followup interview.

The Census Bureau leveraged the flexibility of being in a test environment to add new dimensions to the test as the opportunities arose. We gained valuable insights into areas where we must make improvements such as:

- *Better training for enumerators.* We learned from the 2016 Census Test that certain topics, such as conducting proxy interviews, require additional emphasis in the training. Balancing training content against the critical components of an enumerator's job – while also considering cost and schedule – will be key to our success. Future tests will continue to use a combination of online and classroom training for enumerators.

- *Better procedures for enumerators at multiunit structures.* In the 2016 Census Test, we implemented new procedures for contacting nonresponding addresses at multiunit structures such as apartments and condominiums. Because the layout and addressing of multiunit structures are not standard, we observed situations where the revised approach worked well and others where it did not. For example, garden-style apartments differ from high-rise complexes, and no two high-rise complexes are the same. These variations make finding a one-size-fits-all solution a challenge. As a result, we will consider enhancements that create flexibility for enumerators to assess unique situations. For example, allowing the enumerator to contact nonresponding addresses in an order that suits the layout of the multiunit structure.

- *Enhancements to the proxy interview process.* During the 2016 Census Test, if a proxy respondent, like a neighbor, could not provide the names of a nonresponding household's residents, the interview concluded and no information was captured. We need to enhance our data collection application to enable the enumerator to capture information in this situation – for example, whether the housing unit is occupied, vacant, or not a housing unit. Additionally, if the housing unit is occupied, we need to capture its population count even when no other information can be provided by the proxy. We are also considering collecting household demographics to the extent that they are known.

- *Continued development of closeout processes and procedures for data collection operations.* Our test data showed an increased number of nonresponding cases that reached the maximum number of contact attempts without a successful enumeration. In large part, this was a result of the rigor of our automation and reengineering efforts; in the test, a case was automatically removed from the workload when it reached the maximum number of attempts. Moving forward, we will closely monitor the progress of the Nonresponse Followup workload to ensure a complete and accurate count for all localities. We will monitor enumerators' performance and productivity and proactively retain enumerators who are successful in reaching respondents and completing household enumerations. We will implement procedures such that cases are actively worked until completion.

These key findings are not exhaustive, but are major themes that will inform the operational design for the 2020 Census ahead of the 2018 End-to-End Census Test.

In-Office Address Canvassing Operation

Earlier in the decade, we conducted research and testing to identify our cost-saving innovation areas. Now that the design for 2020 is in place, our testing is about refinements and integration. For 2020, we are taking an innovative approach to the way we conduct address canvassing. We are canvassing every block in-office using satellite imagery and other geospatial data. For the Address Canvassing Test, discussed below, we will walk every block in the test areas to ensure the quality of the in-office methods and procedures.

The In-Office Address Canvassing is a continuous process of monitoring the residential and nonresidential landscape to measure, assess, and ensure the completeness and accuracy of the Master Address File (MAF) and associated attributes and geospatial data.

The ultimate goals of the In-Office Address Canvassing and Review are to:

- Identify geographic areas that are stable and do not require address or geospatial updates.
- Update all living quarters in geographic areas through In-Office Address Canvassing processes. This includes group quarters, like dormitories and prisons, and transitory locations.
- Identify geographic areas that will require In-Field Address Canvassing in addition to in-office prior to the census enumeration.

The 2020 Census In-Office Address Canvassing operation has begun and is meeting the expected production goals. More than 250 geospatial clerks at the National Processing Center have reviewed 6,625,929 blocks during Interactive Review from the beginning of production in September 2015 through October 31, 2016. This process classifies the blocks into three categories:

- Passive = blocks that do not show signs of change from previous update and need no further review at this time.
- Active = blocks that show signs of change and need to move to the next phase of In-Office Address Canvassing for further review.
- On Hold = blocks that need updated imagery prior to classification as passive or active.

As of October 31, 2016, 73.6 percent of the blocks were classified as Passive, 16.2 percent were classified as Active, and 10.2 percent were classified as On Hold.

Address Canvassing Test

We began the Address Canvassing Test on September 30. The sites selected include Buncombe County, North Carolina, and part of the city of St. Louis, Missouri, and we were thrilled to welcome you to Buncombe for a field observation earlier this month. These sites were selected because they provide us an opportunity to execute the Address Canvassing Operation in an urban/suburban/rural site that is experiencing both population and housing growth, and have a mix of housing types and address styles and in an urban site that has had sustained population and housing loss and recent redevelopment. Combined, the sites have over 220,000 housing units.

The goals of this test are to:

- Measure the effectiveness of In-Office Address Canvassing through In-Field Address Canvassing.
- Measure the effectiveness of In-Field Address Canvassing (process related).
- Conduct an In-Field Relisting of a sample of blocks to collect any missed adds, deletes, and quality assurance data to help refine the Quality Control Operations for the 2020 Census.

This work will be accomplished by updating over 7,500 blocks across the sites using about 144 field staff in Buncombe and 134 field staff in St. Louis, including 8 field supervisors in each location. Some of the systems we will deploy in this test include the Listing and Mapping Instrument, updated to display imagery, Mobile Case Management, optimization and automated routing, and the Census Bureau's geospatial systems. In order to assess and accomplish the Address Canvassing Test goals, both In-Office Address Canvassing clerical staff and In-Field Address Canvassing listers will work every block in the two test sites, which allows for the comparison of results from both In-Office Address Canvassing and In-Field Address Canvassing.

The results of the Address Canvassing Test and additional research will validate our assumption of the in-field canvassing workload of approximately 25 percent of nationwide blocks in 2020.

2017 Census Test

In addition to the Address Canvassing Test, the Census Bureau has been planning for test operations in 2017 ahead of the 2018 End-to-End Census Test.

Due to funding uncertainty, on October 18 the Census Bureau announced the stoppage of work on the Puerto Rico Census Test and the field component of the 2017 Census Test. Stopping these tests is not an ideal outcome for operational risk of the 2018 End-to-End Census Test and 2020 Census, but is the best overall option remaining for the program given the funding uncertainty the program faces in fiscal year 2017.

2017 Census Test. Despite the stoppage of the field test operations in 2017, the self-response operation of the 2017 Census Test will continue. This allows the key systems and operations that must be integrated and deployed in the field in 2017 to ensure readiness for the 2018 End-to-End Census Test to remain in scope in 2017 testing.

Scheduled to occur with an April 1, 2017 Census day nationwide, we plan to conduct a test of the self-response operations and systems over a sample of at least 80,000 housing units across the country. Foremost, this will allow us to test the Internet self-response system, with a Spanish language option, and Operational Control Systems integrated with the Census Questionnaire Assistance and non-ID processing operations, as well as the ability to provision and run in a Cloud. These key systems and operations must be integrated and tested ahead of the 2018 End-to-End Census Test. We will be able to test the feasibility of collecting tribal enrollment information.

2018 End-to-End Census Test

The 2018 End-to-End Census Test is the final major field test prior to the beginning of the 2020 Census. It is scheduled with an April 1, 2018 Census day, but field operations will begin in August 2017 with the Address Canvassing operation. We will be conducting our 2018 End-to-End Census Test in at least three areas: Pierce County, Washington; Providence County, Rhode Island; and the Bluefield-Beckley-Oak Hill area of West Virginia. Collectively, the test on these three sites will cover about 770,000 housing units.

As mentioned earlier in my testimony, due to the decision to stop work on the 2017 field test operations, we will evaluate the feasibility from a cost and risk perspective of moving the 2017 field testing in Puerto Rico and tribal lands to 2018. This would potentially add approximately 131,000 housing units to the total for 2018.

The reason the 2018 End-to-End Census Test is so important is that it allows the Census Bureau to prove-in our design and validate that we are ready for the 2020 Census. In it, we will test and validate nearly all 2020 Census operations, procedures, systems, and field infrastructure together to ensure proper integration and conformance with functional and non-functional requirements. We will also produce a prototype of our geographic and data release products. Using our experiences in the 2018 End-to-End Census Test and any lessons learned, we will finalize plans for all operations and make any necessary adjustments to ensure readiness for the 2020 Census.

Integrated Master Schedule

The last time I testified, we had a discussion on the Census Bureau's Integrated Master Schedule (IMS), and I am happy to report a copy of the 2020 Census IMS was provided to this committee after the June hearing. We continue to share the Integrated Master Schedule with GAO on a monthly basis, and would be happy to continue to share it with you on a monthly basis.

The Census Bureau maintains schedule alignment between the 2020 Census Program and all of its corporate service providers at the agency, including the Census Enterprise Data Collection and Processing system (CEDCaP), through a single integrated master schedule. The 2020 Census Program Integrated Master Schedule (IMS) drives the schedule for all corporate service providers that support the program based on the key milestones. The IMS is the single schedule that all projects, including those managed by corporate service providers, interact with in order to provide status on their work on a weekly basis. Project teams may have their own detailed schedules to support day-to-day tasks in order to support the timelines necessary to meet the 2020 Census milestones. Those detailed schedules are linked to the IMS though the 2020 key milestone dates.

The 2020 Census Program IMS is developed and maintained using Primavera scheduling software capable of handling the complex requirements of the program, which falls in line with GAO recommendations. This work is guided by the 2020 Census Schedule Management Plan.

As part of the 2020 Census Program's Monthly Status Report (MSR) process, the Census Bureau provides an executive status report on the program's scheduled activities. The MSR, after review with the Department of Commerce and the Office of Management and Budget, is provided to a variety of stakeholders, including the CJS Appropriations Subcommittee staff, GAO and Office of the Inspector General.

I want to assure you the Census Bureau is ready and on-time with our systems and operations. Let me go into further detail.

Systems Development and Operational Readiness

2020 Census Architecture and Infrastructure Transition

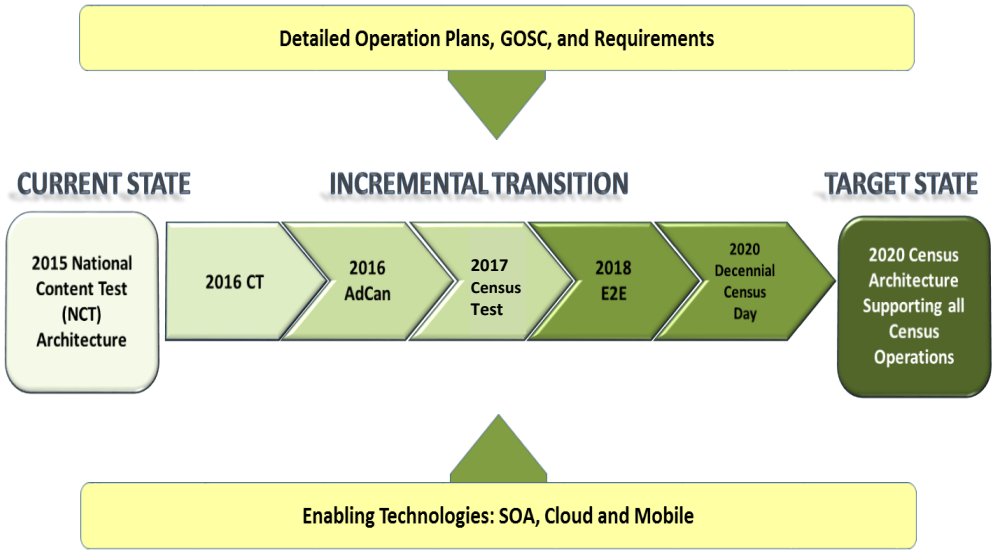
As part of establishing a framework for the technology solutions for the 2020 Census Program, the Census Bureau's Information Technology Directorate has provided overall guidance for the enterprise architecture and standards for the development of the 2020 Census Business Solution Architecture. The solution architecture defines the systems required for the successful conduct of the 2020 Census, how these systems interact, and how the enterprise systems (i.e. CEDCaP) support the 2020 Census Program. The 2020 Census Business Solution Architecture defines data flows, interoperability, interfaces, scalability requirements, and systems to be deployed in the Cloud environment. The Census Bureau has completed a set of documents to ensure alignment of the 2020 Census Business Solution Architecture with the 2020 Census Operation plan. These documents are described below.

While the 2020 Census Business Solution Architecture and the architectural framework allow us to understand what we will need in support of various 2020 Census Operations, the 2020 Census Enterprise Architecture and Infrastructure Transition plan allows us to understand the end state (the target state), when we need to have all of the solutions in place for the end state, and how we get from current state to end state.

As such, the 2020 Census Enterprise Architecture and Infrastructure Transition Plan is aligned with the 2020 Census Operational Plan, with a phased approach to support each of the Census Tests, and finally the 2020 Census. The individual Census Tests and activities demonstrate the progress in implementing the Business, Application, Information, IT Infrastructure, Security, and Quality domains transition.

The 2020 Census Architecture consists of multiple enterprise programs, including CEDCaP. Moving towards a target solution that meets the business requirements, the 2020 Census Architecture's transition milestones align with the CEDCaP program milestones and transition activities, as well as other IT infrastructure roadmap timelines.

2020 Census Architecture Incremental Transition Model



Through a strategic approach, the transition is phased and promoted incrementally until the target state. For each Census Test and eventually the 2020 Census, a specific solution architecture is developed, verified, and validated by the appropriate stakeholders.

Leveraging the outcome of each test, new capabilities are introduced, enhancements are made, system performance and scalability are evaluated, and security is verified – all while ensuring that the milestones for each test are met.

The 2020 Census Architecture Incremental Transition Model (above) illustrates the phased testing approach supported by detailed operation plans, goals, objectives and success criteria, and importantly the business requirements as the control. The enabling technologies such as Service Oriented Architecture, Cloud and Mobile are the mechanisms.

The 2020 Census Enterprise Architecture and Infrastructure Transition plan is part of a broader set of plans, road maps, and architecture definitions, including the CEDCaP Segment Architecture and the CEDCaP Transition plan.

How the Transition Plan Relates

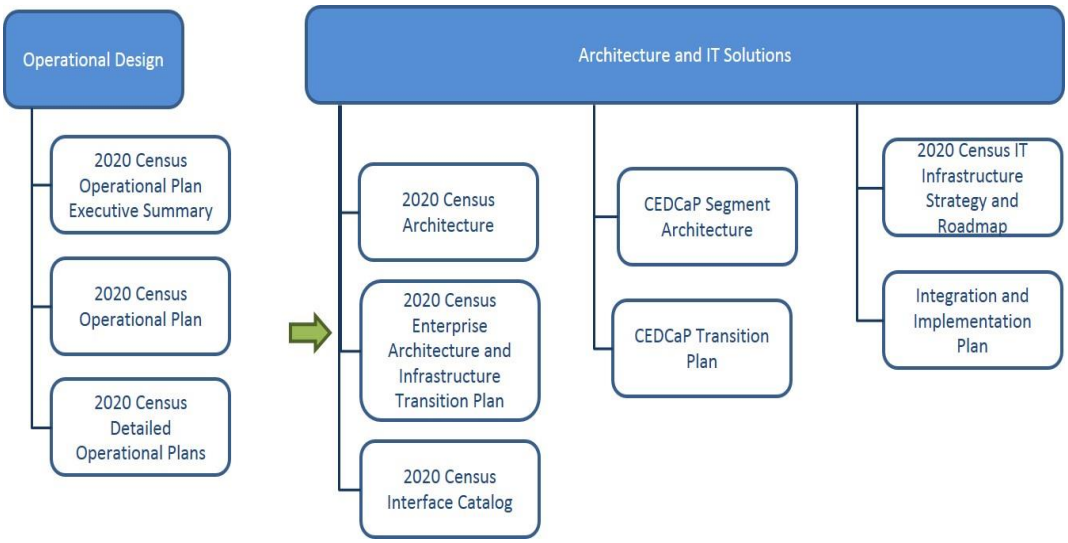
The 2020 Census Operational Plan documents the current operational design for conducting the 2020 Census. It includes a set of design decisions that drive how the 2020 Census will be conducted. The operational design also drives the requirements for IT capabilities and acquisitions.

The 2020 Census Architecture defines the target solution architecture with systems and their interfaces in support of the 2020 Census operations. It defines the infrastructure needed to handle the large scale of the 2020 Census. It also provides guidance on the development of systems that comprise the solution architecture, and communicates the architectural principles to be considered when developing or providing the capabilities for the 2020 Census.

Similarly, the CEDCaP Segment Architecture defines the target solution architecture for CEDCaP systems that will support the 2020 Census.

The 2020 Census Integration and Implementation plan provides a framework and milestones for engineering planning, and communicates key dates to project teams at the solution component level.

The CEDCaP Transition Plan, **in alignment** with the 2020 Census Enterprise Architecture and Infrastructure Transition plan and the 2020 Census Integration and Implementation plan, provides the framework and milestones for CEDCaP components.



Significant Contract Awards

Since I last testified, the 2020 Census Program has awarded four significant contracts to ensure the success of systems integration, operational readiness, and well conceived communications and outreach. We also have additional awards planned in the upcoming months.

2020 Census Questionnaire Assistance

In July, we awarded the Census Questionnaire Assistance (CQA) Contract, which will be the key way in which self-responders communicate with the Census Bureau over the phone and the Internet. This solution, which will be integrated with the full 2020 Census system of systems, will provide full service capability for two primary functions. The first is to assist respondents by providing information about specific items on the census form and answering general questions related to the census. The second is to provide a new option for respondents to complete a Census interview over the phone. Through CQA, when the public calls our 1-800 numbers we will actively help them to complete their questionnaire via the phone. This contract was awarded to General Dynamics Information Technology, which brings a management team familiar with the conduct of this operation from prior censuses.

2020 Census Integrated Communications

In August, the Census Bureau also awarded the Integrated Communications Contract. To support the national headcount in 2020, the Census Bureau is planning an integrated communications program to increase awareness of and participation in the 2020 Census. Effective and strategic communications with many diverse audiences will be crucial to the success of the 2020 Census, including everything from educating the public about the Census to maximizing response rates. This includes creating awareness and facilitating participation among all racial and ethnic groups across the Nation. The contract covers important research and data analytics; marketing; advertising; public relations; partnership support; emerging communications technologies; and project management. The Census Bureau selected the vendor Young & Rubicam, who provided services for the Census 2000 Program.

2020 Census Technical Integrator

In August, we also awarded a Technical Integrator contract. The Technical Integration contract supports all design and architecture engineering and integration activities for the 2020 Census Program – for example the integration of the system of systems for 2020. Additionally, this contract supports all the infrastructure planning and design for the data center capability (both physical and Cloud), the Regional Census and Area Census Offices, and any other designated locations. As part of determining the data center capability, the contractor will ensure our readiness for scalability of all systems and use of Cloud infrastructure, as well as provide design and disaster recovery solutions for the 2020 Census system of systems. Lastly, the Technical Integrator contract provides resources for specialized expertise in areas, such as fraud detection and security. The contract was awarded to T-Rex, which is partnered with several other companies including Leidos (formerly Lockheed Martin's IT Business) and Accenture[1], to bring to bear these important services for 2020. Of note, the management team of T-Rex has demonstrated experience on prior censuses, both within the U.S. and internationally.

Census Schedule A Human Resources Payroll System (C-SHaRPS)

[1] Other T-Rex subcontractors include: Z, Inc, General Dynamics Information Technology, SES, Whirlwind Technologies, LLC, Vidoori, and Octo.

Lastly, the C-SHaRPS contract will provide services to automate the recruiting, hiring, onboarding and separation of our Schedule A temporary staff, who work as address listers and enumerators in the field. These automated activities will replace decades-old manual processes for these activities, which frustrated both applicants and hiring managers. On October 28 we announced the award to CSRA using the Department of Commerce Support Services Initiative - Service Desk Technology & Support Blanket Purchase Agreement, and earlier this month we issued the initial call order.

Upcoming Contract Awards

Additionally, during the past six months, the Census Bureau conducted extensive market research to inform development of the "decennial device as a service" contract. This contract allows the Census Bureau to lease smartphones as the predominant mobile device for enumeration and address canvassing. This contract vehicle will ensure the best *local* telecommunication carrier when available, and will cover the mobile device provisioning, shipping, storage, and disposition. Note, we awarded a smaller "device as a service" contract as part of the testing in 2016 to better understand requirements and capabilities for the contract, which is expected to be awarded in February 2017 for the 2018 End-to-End Census Test and the 2020 Census program.

Content

There are several important initiatives for establishing the content for the 2020 Census Programs, which includes the American Community Survey (ACS) – the long-form data for the 2020 Census.

We are currently working to finalize the content that will appear on the questionnaires in the 2020 Census, having undertaken extensive research and testing as well as stakeholder consultations. The topics for the 2020 Census and ACS are due to Congress by the statutory deadline of April 1, 2017. Following the 2017 Census Test and additional consultations in 2017, we will make final determinations about the questions that will appear on the 2020 Census and ACS and submit to Congress by the statutory deadline of April 1, 2018. The following sections detail where we are in researching 2020 Census content.

2015 National Content Test

During the fall of 2015, the Census Bureau undertook a critical mid-decade study to explore ways to improve our race/ethnicity questions and to better measure and represent our Nation's myriad racial/ethnic identities. Over the past year, our research team has shared and discussed plans for testing different question designs, explained the research study plan and goals, and participated in numerous dialogues about the research plans and community feedback.

This research, the 2015 National Content Test (NCT), has provided the means for refining successful strategies to address known race and ethnicity reporting issues. The NCT builds upon the important work of the 2010 Census Alternative Questionnaire Experiment (AQE) Research on Race and Hispanic Origin and addresses racial/ethnic community feedback on improving data for our Nation's growing and diversifying populations.

The ultimate goal of this research is to improve the question design and data quality for the 2020 Census, while addressing community concerns that we have heard over the past several years, including the call for more detailed, disaggregated data for our diverse American experiences as Germans, Mexicans, Koreans, and myriad other identities.

This fall, we released the preliminary findings from the 2015 NCT research and have discussed our insights with Census Bureau advisory groups, community leaders, and the public.
In early October, we convened two virtual webinars with our Census advisory committees.

On October 3, we discussed the results with our Census National Advisory Committee (NAC) on Racial, Ethnic, and Other Populations. That same week, on October 6, we discussed the results with our Census Scientific Advisory Committee. In addition, on Friday, October 28, we presented the NCT results publicly at the quarterly 2020 Census Program Management Review. We also presented the NCT results at the NAC semi-annual meeting on November 3.

We continue to discuss the research findings with our advisors, stakeholders, and the public, to address their questions and receive their feedback. We are working with the Office of Management and Budget to finalize our plans for the March 2018 Congressional submission of

our final questions for the 2020 Census. Together with OMB and our fellow federal statistical agencies, we will continue to investigate these topics for improving federal data on race and ethnicity as the OMB solicits public feedback through the Federal Register Notice process to review particular components of the current standards for data on race and ethnicity.

I am confident that the 2015 NCT research results provide a strong foundation for collecting 2020 Census data, which will more accurately reflect our diverse racial/ethnic communities in the United States.

Tribal Consultations

Another aspect in our preparations for the 2020 Census are the tribal consultations we have held across the country since 2015. The consultations are a critical part of overall communication and outreach efforts directed at ensuring an accurate, cost-effective population count in 2020. I am personally involved in our tribal consultations and I am excited about the collaboration we have had and will continue to have with tribal leaders.

Based on lessons learned from our 2007 tribal consultation meetings we began our tribal consultations two years earlier than last decade. The first round of consultation began in October 2015 and went through March 2016, with eight consultations around the country. We concluded with a national webinar on April 7, 2016. We began our second round of followup meetings in September and they will continue through this month. Building awareness about the importance of the 2020 Census is essential in motivating response to the census in communities across our diverse Nation, including the American Indian and Alaska Native population both on and off tribal lands.

We are keen to build on our government-to-government relationship to receive feedback. During our consultations, we have heard from tribal leaders on topics such as outreach and promotion, data collection operations, content, geography and others.

In response to extensive discussion regarding the importance of tribal enrollment data during the 2007 American Indian and Alaska Native Tribal Consultations and a formal request from the

U.S. Department of Housing and Urban Development (HUD), the Census Bureau committed to testing the feasibility of a tribal enrollment question in a Census environment. The Census Bureau is currently exploring the feasibility of collecting data on tribal enrollment through a combination of qualitative and quantitative testing. The qualitative testing consisted of focus groups and cognitive interviews.

At this time, we have made no decision about adding the tribal enrollment question to the 2020 Census. We are testing the feasibility of collecting the information and we are still in consultations with the tribes and other agencies.

Residence Criteria

We have been working on our plans for the 2020 Residence Criteria and Situations. In May 2015, we issued a Federal Register notice requesting public comment on the 2010 Residence Rule and Residence Situations. We then published a Federal Register Notice on the proposed 2020 Census Residence Criteria and Situations on June 30, 2016. Public comments were accepted through September 1, 2016.

We received almost 78,000 public comments to the June 30th Federal Register Notice. We are currently evaluating these comments and we aim to have responses to the comments by the end of the year. The vast majority of the comments were on where we tabulate prisoners. The Census Bureau plans to release the final 2020 Census Residence Criteria and Residence Situations by the end of 2016.

In the 2010 Census, we tabulated prisoners at the facility where they usually lived at the time of the Census using records provided by prisons, which was consistent with the concept of usual residence. Our proposed 2020 Census Residence Criteria and Residence Situations include a proposal to continue to count prisoners at the facility where they usually lived at the time of the Census. However, we are also assessing the feasibility of counting prisoners elsewhere.

In the 2010 Census, we worked with the Department of Defense to count members of the Armed Forces and federal civilian employees serving overseas, as well as their dependents living with them, at their "home of record" for the purposes of apportionment.

Our proposed 2020 Residence Criteria and Residence Situations include a proposal to count military personnel temporarily deployed overseas at their usual residence in the United States, using administrative data from the Department of Defense. We are currently evaluating the ability to integrate these data successfully into the resident population counts.

We also proposed to continue counting military and civilian employees of the U.S. Government who are stationed or assigned outside the United States, and their dependents living with them, in their home state, also known as their "home of record," for apportionment purposes only. We are currently evaluating public comments made in response to the Federal Register Notice on this proposal.

Throughout this process, we have engaged our key stakeholders, including Congress, by having extensive discussions about the Residence Criteria and Residence Situations. I thank the Subcommittee for your continued support and interest in our work. With your support, I am confident the Census Bureau will achieve its goal of counting everyone in America once, only once, and in the right place in 2020. I look forward to answering your questions. Thank you.

John H. Thompson
Director, U.S. Census Bureau

John H. Thompson was sworn in as the 24th Census Bureau Director on Aug. 8, 2013.

Thompson succeeds Robert Groves, who left the Census Bureau to become provost of Georgetown University in 2012.

A statistician and executive, Thompson had been President and CEO of NORC at the University of Chicago since 2008. He served as the independent research organization's Executive Vice President from 2002 to 2008. NORC, previously known as the National Opinion Research Center, collaborates with government agencies, foundations, education institutions, nonprofit organizations and businesses to provide data and analysis that support informed decision making in key areas including health, education, criminal justice, energy, substance abuse, mental health and the environment.

As Director, Thompson will oversee preparations for the 2020 Census and preside over more than 100 other censuses and surveys, which measure America's people, places and economy and provide the basis for crucial economic indicators such as the unemployment rate.

Upon being confirmed, Thompson said: "As America forges its data-driven future, the Census Bureau must lead the way by tracking emerging trends, developing more efficient processes and embracing new technologies for planning and executing the surveys it conducts that are so important to the nation. A culture of innovation and adaptability will allow the Census Bureau to serve the public's needs and meet the challenges of this dynamic new environment."

Thompson had a distinguished career at the Census Bureau from 1975 to 2002 before joining NORC. As an Associate Director, he was the senior career executive responsible for all aspects of the 2000 Census. Prior to that, Thompson served as Chief of the Decennial Management Division. He worked in the Statistical Support Division from 1987 to 1995 and the Statistical Methods Division from 1975 to 1987.

A longtime leader in the social science research community, Thompson is an elected fellow of the American Statistical Association and past chair of the association's Social Statistics Section and Committee on Fellows. He served as a member of the Committee on National Statistics at the National Academy of Sciences. He participated as a member of the CNSTAT panel on the design of the 2010 Census Program of Evaluations and Experiments and the panel to review the 2010 Census.

He holds bachelor's and master's degrees in mathematics from Virginia Tech.