

PREPARED STATEMENT OF

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High-Risk Government Operations Susceptible to Waste, Fraud, and Mismanagement

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Good morning Chairman Johnson, Ranking Member McCaskill, and members of the Committee. I appreciate the opportunity to update you on the 2020 Census. I am proud to report today that we remain on the critical path to readiness for the 2020 Census. With that said, the 2020 Census has been added to the most recent Government Accountability Office's High-Risk List. Previously, both the 2000 Census and the 2010 Census were included on their list. The repeated inclusion is a reflection of the complexity, scale, and importance of conducting a fair and accurate count of the Nation each decade. This decade the complexity is heightened, as we look to modernize by replacing the paper and pencil design of the 2010 Census with innovative technologies that will help us save the taxpayer billions of dollars. I am grateful for this opportunity to describe the robust controls we have in place to mitigate the risks that are inherent in carrying out this constitutionally-mandated task.

In planning and testing the 34 operations and roughly 50 systems that comprise the 2020 Census, we are aware of the many risks the program faces, which is why we work rigorously to manage, monitor, and mitigate those risks. Based on GAO's reports and recommendations and our continuing work with their team, we are aware of their ongoing concerns to:

- Define, test, and secure our system of systems ahead of the 2020 Census;
- Integrate schedule and risk management across the 2020 Census and its supporting programs such as the Census Enterprise Data Collection and Processing system, known as CEDCaP;

- Validate and document our lifecycle cost estimate; and
- Assess and improve certain field procedures to achieve better field efficiency.

We concur with each of the GAO's recommendations, and are working to implement their suggestions.

We also have been open and transparent about the challenges we face in successfully conducting this redesigned and cost effective decennial census. Accordingly, we:

- Hold quarterly Program Management Reviews that are open to the public.
- Have documented our largest decisions in the 2020 Census Decision Memorandum Series. Additionally, our 2020 Census Operational Plan lists all decisions that have been made so far, along with the timeline for making those that remain; it was last updated in October 2016.
- Have and will continue to share our Integrated Master Schedule with GAO on a monthly basis.

We recognize that we face challenges to get this right, but are confident that with adequate funding we can implement, integrate, secure and test our designs on an efficient schedule to successfully execute the 2020 Census. The uncertainty of the final fiscal year 2017 budget required us to make difficult decisions in January to descope some aspects of the program and pause others to mitigate funding uncertainty risk until we know final funding levels. These decisions, announced last month to ensure systems readiness, will lead to: a greater percentage of address listing field work in 2019, a delay in opening three of our six Regional Census Centers in 2017, the elimination of advertising in the 2018 End-to-End Census Test, and program and test management operations far lower than has been recommended by GAO and our Inspector General to successfully manage a program of this complexity. As we ramp-up to 2020, maintaining adequate funding levels is paramount to achieving \$5 billion in cost savings without sacrificing data quality or taking on excessive program risk. I stress that funding certainty will enable us to conduct the testing, securing, validation, documentation, and planning that we have deemed and GAO has urged as necessary for risk mitigation and ultimately success for the 2020 Census.

Over the past five years, we are proud to report we have fundamentally redesigned the decennial census. After a four-year period of research and testing early in the decade, we released the 2020

Census Operational Plan in October 2015 that documents the design for conducting the 2020 Census. This design modernizes the way we conduct the decennial census by embracing technology, preexisting data, and automated operations. We took up the challenge posed to us by Congress to conduct the 2020 Census at a lower cost per household than the 2010 Census, adjusted for inflation, without sacrificing data quality or increasing operational risk. The design we are executing, if we receive the necessary funding, will save the taxpayer more than \$5 billion relative to repeating the paper and pencil design of the 2010.

As we look to the final years of the decade, monitoring and mitigating risks at the program and project level is among the most important things we are doing to ensure we can execute our operational plan for the 2020 Census. Another related and equally important component to success has been and will continue to be working with our colleagues both at GAO and our Inspector General's office as they look at our designs, plans, systems, and operations to identify areas of improvement and implement their recommendations. Specifically, we are concentrated on the following risk areas, along with the overarching risk of funding uncertainty mentioned above:

1. Cybersecurity, Fraud Detection, and Ensuring the Public's Trust
2. Systems Readiness Ahead of the Census
3. Refining Field Procedures through 2020 Census Testing
4. Integrated Schedule Management
5. Lifecycle Cost Estimate Documentation and Validation

1. Cybersecurity, Fraud Detection, and Ensuring the Public's Trust

Ensuring the trust of the public in protecting all data at all times is at the bedrock of the Census Bureau's mission. We are actively securing our systems and all devices needed for the 2020 Census and its field tests, while also ensuring that we prevent fraud, distributed denial-of-service attacks, and phishing. This is particularly critical to the decennial census that must count everyone in the country once, only once, and in the right place.

To combat potential cyberattacks, the Census Bureau uses a layered defense strategy to protect all data it collects from respondents as well as administrative records. Implementing robust IT security controls will help block attempts from outside infiltration, as well as prevent negative impacts to

services or data such as network disruption, technical malfunctions, and stolen or corrupted data. Information will be encrypted during transmission and at rest.

The Census Bureau employs sophisticated security protocols, is protected by the Department of Homeland Security (DHS)-managed Einstein program, and adheres to National Institute of Standards and Technology (NIST) requirements and guidance as required by the Federal Information Security Management Act (FISMA). We also are engaging with other Federal agencies, most prominently DHS to provide assistance to us in reviewing our design and security architecture for the 2020 Decennial Census. In addition, we have established NSA and the Department of Commerce Office of Security relationships for assistance in threat analysis and related counter-terrorism assistance. We have also brought in private-sector expertise to further ensure state-of-the-art defense against cyber-attacks.

2. Systems Readiness Ahead of the 2020 Census

The Census Bureau learned many lessons in systems development and readiness from efforts leading up to the 2010 Census. Foremost among these was to develop and field test proof of concept systems, which we did for the 2020 Census from 2012 through 2015. As a result, we have crafted a design in 2015, which has been validated by the Census Tests conducted so far.

In May 2016, after rigorous evaluation and analysis of alternatives, we decided to implement a hybrid approach to the question of whether to build or buy CEDCaP software by choosing a commercial off-the-shelf platform integrated with select Census Bureau custom solutions to optimally address the goal of successfully deploying an automated 2020 Census. The resulting buy decision was designed to help 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.

Additionally, we have brought in expert help from a large team of private sector IT experts to aid with the integration of our full system of systems. 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. To support the

management of all major IT Decennial contract solutions, each contract has a dedicated Government Program Management Office and those are consolidated in a single division of the 2020 Census program. We have a robust governance process with three groups that work together to ensure that all contracts meet business requirements and that solutions are delivered on time.

In support of the readiness and security of the 2020 Census system of systems, the Technical Integration (TI) contract provides architecture and engineering expertise to define, guide, and execute the integration of the 2020 Census technical solution. In doing that work, this team works closely with the other significant contracts as follows: the CEDCaP commercial off-the-shelf platform ECaSE, Census Questionnaire Assistance (CQA), Device as a Service, and the Census Schedule A Human Resources Recruiting and Payroll Systems (C-SHARPS). TI plays a large role supporting the Census Bureau's efforts to ensure integration across the program ahead of the 2018 End-to-End Census Test.

3. Refining Field Procedures through 2020 Census Testing

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, which will make it easier for people to respond and save taxpayers more than \$5 billion relative to the 2010 Census. Census tests are critical to preparing for the 2020 Census. Moreover, to help us improve our testing methods and results, we have invited our oversight stakeholders, including GAO, to each of our Census field tests to see how the operations and systems are progressing throughout the decade, and also to have as many observers in the field to help us learn lessons and document improvements to make to our operational design. This is the main reason we test and must continue to, as we are rigorously adapting after each test to maximize efficiency and effectiveness in our operations.

2016 Census Test

In 2016, we conducted the 2016 Census 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 addresses in person. The Census Bureau also refined methods and related activities for maximizing self-response (particularly via the Internet) to the 2020 Census.

The 2016 Census Test was a valuable learning experience. Among other successes from this test, we:

- Demonstrated that our self-response contact strategy, using paper questionnaires in an initial contact for certain parts of the country and letters rather than postcards as a first reminder have a positive impact on response rates.
- 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.
- Successfully expanded language support services, including Chinese and Korean (languages using non-Roman alphabets).
- Reduced Nonresponse Followup by using administrative records and third-party data for both vacant and occupied addresses.
- Collaborated with the United States Postal Service (USPS) to further our understanding of USPS processing of mail pieces, specifically for why mail is unable to be delivered, to help inform our assessment of vacancy status to reduce the Nonresponse Followup workload.
- Determined that the implementation of two different staffing ratios that increased the number of enumerators to each supervisor over that of the 2010 Census were both viable, due to increased automation of operational control capabilities and other field efficiencies.
- Improved quality control by re-contacting a sample of Nonresponse Followup cases to validate the data collection in the initial Nonresponse Followup interview.

We also gained valuable insights into areas where we must make improvements such as:

- *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. 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.

- *Better training for enumerators.* We learned from the 2016 Census Test that certain topics 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.
- *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. We are working to consider enhancements that create flexibility for enumerators to assess unique situations.
- *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 partial information in this situation.

2016 Address Canvassing Test

In the fall of 2016, we conducted the 2016 Address Canvassing Test in Buncombe County, North Carolina, and part of the city of St. Louis, Missouri to measure the effectiveness and quality of in-office address canvassing and in-field address canvassing. These sites were selected because they provide us an opportunity to execute the Address Canvassing operation in both an urban/suburban/rural site that is experiencing both population and housing growth, with 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 had over 220,000 housing units.

The results of the 2016 Address Canvassing Test and additional research will help us to validate our procedures around the in-field address canvassing operation and our assumptions for its workload. The results will inform key assumptions contributing to the lifecycle cost estimates for

the 2020 Census. We are processing and analyzing the results of this test, and assessing valuable lessons we learned in the field and how they will help us refine the operation.

2017 Census Test

In addition to the 2016 Address Canvassing Test, the Census Bureau has been planning for additional key test operations in 2017 ahead of the 2018 End-to-End Census Test. This test will involve 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. With operations beginning just next month ahead of an April 1, 2017 Census day nationwide, we plan to conduct a test of the self-response operations and systems with a sample of 80,000 addresses 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 also 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 for a Census Day of April 1, 2018, 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. The 2018 End-to-End Census Test will allow the Census Bureau to prove-in our design and validate that we are ready for the 2020 Census.

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 also will 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.

4. Integrated Schedule Management

The integration of schedules across the 2020 Census and all of its supporting programs was a major theme of a GAO report released last year. After thorough review of our procedures and the interdependencies between the 2020 Census and its supporting programs, I am happy to report the Census Bureau maintains full schedule alignment between the 2020 Census Program and all of its corporate service providers at the agency, including 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 through the 2020 key milestone dates, and we continue to share the Integrated Master Schedule with GAO on a monthly basis

5. Lifecycle Cost Estimate Documentation and Validation

One of the key ways we can measure if we are on track and on schedule to meet our goals for the 2020 Census is through the 2020 Census lifecycle cost estimate. This is why we have employed rigorous cost estimation techniques and validated many of our key assumptions through actual data we have gathered through our testing. In their 2016 audit, GAO recognized that the Census Bureau has taken significant steps to improve our cost estimation approach. We are committed to continuing down the path of following the GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs when producing annual updates to the 2020 cost estimate. We agreed with GAO findings that there are still improvements that we can make to our cost estimation to improve the process and documentation around the modeling in line with best practices.

One significant improvement the Census Bureau has made in this area in recent years is to establish the independent Office of Cost Estimation, Analysis, and Assessment. This office has now produced independent estimates for the 2020 Census and reviewed them with Department of Commerce subject matter experts. The independent estimates use different methodologies than the 2020 Census program

office estimate, but the two are close in total cost. This is a major reason we are confident in our most recent estimate of lifecycle costs, and our estimate that we can avoid \$5.2 billion in costs compared to repeating the ‘paper and pencil’ design used for the 2010 Census.

Conclusion

We are in the midst of implementing an innovative and modern design for the 2020 Census, one that will bring the decennial census into the 21st century. This design reflects a flexible approach that takes advantage of new technologies, methodologies, and data sources while minimizing risk. With the funding we have requested, we can still execute most of the design that will save taxpayers billions of dollars. I look forward to further discussion of the challenges we face and what we are doing to mitigate them, and I look forward to continuing our long and productive relationship with GAO in the years ahead.