



Testimony of

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Chairman Gowdy and Members of the Committee:

I appreciate the opportunity to represent the Department of Commerce Office of Inspector General and testify about the Census Bureau's 2020 Census life-cycle cost estimate. Over the last 3 years, we have conducted seven separate audits and evaluations that included findings related to how the Bureau collects cost data and estimates costs for the 2020 Census. This work, as well as our oversight of the 2010 Census, has enabled us to inform stakeholders on unexpected operational changes that rapidly inflate cost estimates.

Early this decade, the Bureau committed to conducting the 2020 Census at a lower cost per household (adjusted for inflation)—while continuing to maintain high quality—than the last decennial, to end decades of rising average costs. Over the past three decennial censuses, the per-household cost had climbed from \$45 in 1990 and \$80 in 2000 to \$92 in 2010 (in 2020 constant dollars).<sup>1</sup> To stop these escalating costs, the Bureau estimated that—through major cost-avoidance innovations in its operational design—it could avoid \$5.2 billion in 2020 Census costs (compared with repeating the 2010 design in 2020).

However, as this decade progressed, the Bureau has scaled back its cost avoidance projections. Our audit work has identified that the 2020 Census life-cycle cost estimate is not auditable, and the Bureau failed to capture information during research and testing that could help update or assess the accuracy of the estimate. In addition, unaccounted-for costs and cost overruns have affected address canvassing, information technology development, and other areas—leading the Bureau recently to reduce its cost avoidance estimate and the Secretary of Commerce to create a multidisciplinary task force to evaluate and produce an independent cost estimate.

My testimony today addresses in further detail some of the risks associated with the Census Bureau's cost estimation:

1. The Bureau has produced a 2020 Census life-cycle cost estimate that cannot be validated.
2. Our recent work identifies the risk of decreased cost avoidance, as well as cost overruns and unaccounted-for costs.

## **I. The Bureau has produced a 2020 Census life-cycle cost estimate that cannot be validated**

### *The 2020 Census life-cycle cost estimate is not auditable*

In our 2015 report on the 2014 Census Test, we found that the 2020 Census life-cycle cost estimate was not auditable.<sup>2</sup> More than 100 variables (such as the cost of leased offices and the self-response rate) drive the overall cost estimate. We attempted to verify the accuracy of the

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<sup>1</sup> Census Bureau, September 2016. *2020 Census Operational Plan: A New Design for the 21st Century (Version 2.0)*, p. 7.

<sup>2</sup> Department of Commerce Office of Inspector General, September 30, 2015. *2020 Census: The 2014 Census Test Misses an Opportunity to Validate Cost Estimates and Establish Benchmarks for Progress*, OIG-15-044-A. Washington, DC: DOC OIG.

input factors by tracing them to their source and underlying documentation; however, the Bureau's Decennial Census Management Division (DCMD)—which is responsible for calculating the cost estimate—neither obtained nor required supporting documentation when recording and updating input factors. As a result, DCMD staff neither verified the reliability of the life-cycle cost variables (including those calculated from 2010 Census data) nor reviewed any of the supporting documentation provided by subject matter experts who defined some of the variables. Furthermore, the Bureau could not specifically identify the subject matter experts. According to Bureau management, the development of assumptions was largely a group effort. Thus, the subject matter expert inputs were actually based on various informal discussions between DCMD staff and members of the Decennial, Field, Research and Methodology, and Information Technology Directorates. However, the rationale for reaching input decisions was not documented.

In response to our initial findings, DCMD management stated that—following initial efforts to establish which life-cycle variables to include in the cost estimation—“a series of briefing [sic] was held to review this work in detail with the external experts and Census Bureau leadership, including the Director, who has extensive experience in managing both decennial-census and private sector survey collection efforts.” Although we do not dispute the level of knowledge provided by these experts, the Bureau was unable to produce documentation supporting its decisions. The lack of traceable data sources for each cost element precluded an audit of the validity and accuracy of the estimated cost avoidance that the Bureau reported to its stakeholders.

#### *Census tests failed to capture cost data*

Census tests are a way to put theory to practice: to determine which new methods are the soundest and most cost-effective. We identified three instances where the Bureau's tests failed to capture cost data that could be used to validate and update the 2020 Census life-cycle cost estimate.

1. The 2014 Census Test was designed to compare cost, productivity rates, and data quality across two key decennial census cost drivers: nonresponse followup (NRFU) and self-response. NRFU, for example, tested different contact strategies, including personal visits and telephone calls—while self-response reviewed the effectiveness of the Internet and paper questionnaires for enumerating households. Although the 2014 Test plan indicated that cost comparison was a component of the test, the test itself did not provide cost data that could be used to validate the estimated cost avoidance or compare the costs associated with the different design strategies.<sup>3</sup> The Bureau gave various explanations for why the 2014 Test was unable to assess the effects of the design strategies on cost; regardless of the reasoning, the 2014 Test failed to inform 2020 Census costs and update the cost estimate.
2. During the 2010 Census, the Bureau conducted a costly 100 percent in-field address canvassing operation, which required temporary field staff to identify every place where people could live or stay. The Bureau estimated that \$900 million of the \$5.2 billion in

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<sup>3</sup> Ibid.

cost avoidance could be met during the 2020 Census by changing its approach to address canvassing. To determine the most efficient method for targeted address canvassing, in which field staff would travel only to blocks that likely changed since 2010, the Bureau conducted an Address Validation Field Test and a Partial Block Canvassing Test. Those tests proposed to answer two questions: “Is the collection of data using the Partial Block Canvassing methodology more cost effective than a full block canvass?” and “How can we best balance cost and quality associated with a targeted address canvassing?”<sup>4</sup> The Bureau planned on using final results to compare the costs associated with statistical modeling against the use of aerial imagery for selecting blocks for targeted address canvassing. However, no cost data for either approach were collected. According to field office management, they were not provided field cost collection requirements by the research teams in a timely manner, so this information was not incorporated into testing. As a result, the Bureau could not determine which component, statistical modeling or imagery, would yield a reduction in costs without affecting quality.

3. During the 2015 Census Test, we found that the Bureau could not differentiate between the costs associated with enumeration activities (such as NRFU contact attempts) and administrative activities (including documenting, collecting, and submitting paper timesheets).<sup>5</sup> The 2015 Test compared enumerators who used new methods developed during research and testing with enumerators who used methods similar to 2010 Census enumerators (e.g., paper payroll and face-to-face meetings with supervisors). The 2010 Census approach imposed considerable administrative burden on enumerators and supervisors that the Bureau intends to eliminate during the 2020 Census through greater automation. When analyzing 2015 Test results, the Bureau did not differentiate administrative costs from enumeration costs. Therefore, it could not determine whether streamlined administrative functions (such as automated payroll) and new enumeration methods (such as limited contacts and automated routing) increased efficiency or whether greater efficiency was achieved by simply reducing administrative burden.

#### *Accounting weaknesses cast doubt on actual costs*

Our recent audit work also identified problems with the way the Bureau tracks its costs. In order to identify the cost avoidance associated with design changes, make decisions about where to cut funding, or calculate the return on investment of its research initiatives, the Bureau needs to know how much its projects actually cost.

In 2014, we evaluated the Bureau’s process for implementing mandatory sequestration-related budget reductions and assessed the effects of those reductions on the Bureau’s ability to reduce the per-household cost of the 2020 Census.<sup>6</sup> We found significant deficiencies in the Decennial

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<sup>4</sup> DOC OIG, February 23, 2016. *The U.S. Census Bureau’s Efforts to Ensure an Accurate Address List Raise Concerns over Design and Lack of Cost-Benefit Analysis*, OIG-16-018-A. Washington, DC: DOC OIG.

<sup>5</sup> DOC OIG, June 7, 2016. *2020 Census: The Bureau Has Not Reported Test Results and Executed an Inadequately Designed 2015 Test*, OIG-16-032-A. Washington, DC: DOC OIG.

<sup>6</sup> DOC OIG, May 21, 2014. *The Census Bureau Lacks Accurate and Informative Cost Data to Guide 2020 Census Research Through a Constrained Budget Environment*, OIG-14-021-A. Washington, DC: DOC OIG.

Program's method for recording salary costs. The Department's *Accounting Principles and Standards Handbook* requires that actual costs be recorded in the accounting system. However, we found that employee salary costs, in hours, were charged to projects based on predetermined budget allocations—not on actual hours worked. In addition, those recorded salary costs did not necessarily account for what the employee actually worked on; consequently, some projects could have been charged to incorrect activities and appropriation accounts. As a result, we could not determine specific project costs—or the cost of the entire Decennial Program's research effort—because projects costs were recorded in the accounting system simply to match previously set budget allocations.

Similarly, we found that the Bureau's Geography Division did not identify contractor costs of specific projects that update the Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) database.<sup>7</sup> Instead, the Geography Division charged all contractor costs to a single project, regardless of contractor activity; thus, when deciding whether to defund a project, the Bureau cannot consider all costs associated with that project. For example, due to sequestration in 2014, the Geography Division eliminated a project that updated the MAF/TIGER to save costs. However, it did so without knowing the contractor costs associated with that project or its total impact on the budget.

We also found that the Bureau was unable to correctly report the cost of the 2015 Census Test because it did not accurately charge contract costs to their corresponding activities.<sup>8</sup> We requested a list of all contracts associated with and charged to the 2015 Test. The Bureau provided us a list of 17 contracts with obligations totaling \$66 million. In order to verify the completeness of the list, we extracted 2015 Test contract costs from the Bureau's accounting system using project and task codes provided by the Bureau. We found that the Bureau only recorded obligations totaling \$5.2 million rather than \$66 million. Further, we found that \$3.8 million of the \$5.2 million in contract awards that were obligated against 2015 Test activities were for projects and tasks that were not associated with the test.

Inadequate accounting of employees' actual work and level of effort required to accomplish project goals limits the Bureau's ability to assess the return on investment of its research efforts. More importantly, it prevents Census Bureau management from making informed decisions in a constrained budget environment.

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<sup>7</sup> The Bureau maintains the MAF/TIGER database as a record of the addresses of all living quarters and their associated geographic locations. See DOC OIG, May 23, 2016. *The U.S. Census Bureau Geography Division Lacks Complete Information for Project Costs and Has Not Fully Monitored GSS-I Goals*, OIG-16-029-A. Washington, DC: DOC OIG.

<sup>8</sup> DOC OIG, June 7, 2016. *2020 Census: The Bureau Has Not Reported Test Results and Executed an Inadequately Designed 2015 Test*, OIG-16-032-A. Washington, DC: DOC OIG.

## **2. Our recent work identifies the risk of decreased cost avoidance, as well as cost overruns and unaccounted-for costs**

*The Bureau is at risk of decreased cost avoidance, as well as cost overruns*

Early in 2016, the Bureau estimated that the Census Enterprise Data Collection and Processing (CEDCaP) program—a “bureau-wide effort that . . . creates an integrated and standardized enterprise suite of systems” that will help the Bureau successfully automate the 2020 Census—would cost \$656 million. In May 2016, the Bureau decided to use a “hybrid approach” and integrate a commercial off-the-shelf platform with select custom systems. In June 2017, the Bureau reported the program experienced increases, estimating that the CEDCaP program will cost \$965 million. If this enterprise-wide data collection solution falls short, the 2020 Census is at risk for accumulating even further escalating costs.

For example: leading up to the 2010 Census, the Bureau planned to reduce the costs of field operations by using custom mobile handheld computing devices—equipped with global positioning system capabilities—to automate workload assignments, data collection, and information processing functions. However, the project experienced constant setbacks, including technical problems, escalating costs, and missed deadlines. In April 2008, the Bureau abandoned the devices for NRFU enumeration and resorted to paper-based operation instead. Leading up to 2020, CEDCaP poses a similar risk: if the program does not work as expected and the Bureau has to revert to paper-based enumeration, costs could drastically increase.

Additionally, in our audit of the Bureau’s 2016 Address Canvassing Test, we identified substantial operational cost overruns. As previously mentioned, given the cost of 100 percent in-field address canvassing in 2010, the Bureau elected to conduct 100 percent in-office address canvassing during the 2020 Census. In the latter, employees use satellite imagery and third-party address lists to determine which blocks are likely to require address updates, then send field staff to review those blocks. In the 2015 version of the 2020 Census life-cycle cost estimate’s model, the Bureau estimated that this in-office address canvassing would cost \$44 million. However, our review of in-office address canvassing found that it will cost at least \$125 million (almost triple the estimate) from FY 2016 to FY 2019.<sup>9</sup> After our review, the Bureau—citing funding uncertainties—informed us that a portion of in-office address canvassing would be suspended until 2021. Subsequently, the Bureau increased the expected in-field address canvassing workload from 25 percent to 30 percent of all housing units. Depending on the results of the coverage evaluations of the 2016 and 2018 Test address canvassing operations, the workload could rise further. Currently, the precise cost impact of this is unknown. However, the Bureau originally expected reengineered address canvassing to account for \$900 million of its 2020 Census cost avoidance; a 20 percent increase in the in-field address canvassing workload will likely reduce the magnitude of cost avoidance the Bureau will achieve by reengineering the address canvassing operation.

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<sup>9</sup> DOC OIG, May 11, 2017. *2020 Census: The Address Canvassing Test Revealed Cost and Schedule Risks and May Not Inform Future Planning as Intended*, OIG-17-024-A. Washington, DC: DOC OIG.

Finally, our evaluation of the interactive review portion of the in-office address canvassing operation found that the estimate for that operation was derived from undocumented, verbal conversations.<sup>10</sup>

### *Unaccounted-for costs have been identified*

In our evaluation of the 2016 Census Test, we identified risks associated with unaccounted-for costs with respect to redesigned NRFU operations. The 2020 Census life-cycle cost estimate assumes that (1) all NRFU housing units receive a maximum of six contact attempts and (2) all households are enumerated by the sixth attempt. However, during the 2016 Census Test, we found that this was not the case and, if not corrected, the Bureau could underestimate NRFU costs.<sup>11</sup> Specifically, we found that the operational control system did not limit enumerators to six attempts per housing unit; rather, it limited them to six *days* of attempts. As a result, 10 percent of housing units during the 2016 Test received more than six attempts; 29,000 additional contact attempts across just 144,000 cases indicates that the current 2020 Census life-cycle cost estimate fails to account for millions of potential attempts.

During recent tests, a high percentage of NRFU cases have gone “unresolved,” because an enumerator was unable to collect data for (or *enumerate*) that housing unit during the NRFU operation (see figure 1).<sup>12</sup> Given that the Bureau did not implement strategies to increase the response rate (e.g., nationwide publicity, the Census Partnership Program, and paid advertising) during its 2020 Census tests, this may not be a concern. However, if the innovative NRFU procedures result in an increased unresolved rate—as observed in the tests—the Bureau will have to expend additional resources not currently accounted for in the cost estimate to fulfill the Constitutional requirement to count the population.

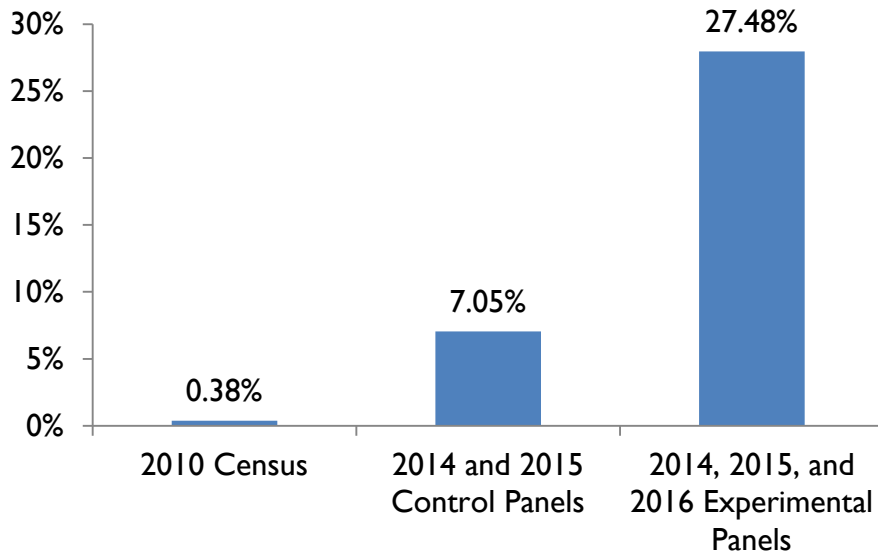
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<sup>10</sup> DOC OIG, September 13, 2017. *2020 Census: Evaluation of Interactive Review Address Canvassing Operation Revealed Issues with Quality Assurance Controls*, OIG-17-030-I. Washington, DC: DOC OIG.

<sup>11</sup> DOC OIG, March 16, 2017. *2020 Census: 2016 Census Test Indicates the Current Life-Cycle Cost Estimate is Incomplete and Underestimates Nonresponse Followup Costs*, OIG-17-020-I. Washington, DC: DOC OIG.

<sup>12</sup> During the 2010 Census, the Bureau ceased NRFU operations on less than one percent of U.S. housing units.

**Figure I. 2010 Census NRFU Housing Unit Unresolved Rate Compared to the 2014, 2015, and 2016 Census Tests**



Source: U.S. Census Bureau

<sup>a</sup> During the 2014 and 2015 Census Tests, the Bureau made use of control panels, which conducted NRFU much the same as it was conducted during the 2010 Census in order to measure the effect on NRFU of new innovative techniques—used by experimental panels—that it is considering implementing during the 2020 Census. The 2016 Census Test did not use a control panel.

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Clearly, the Bureau has taken seriously the call for a decennial census that keeps up with modern innovations. Following the 2010 Census, the Bureau was roundly criticized for not taking advantage of the Internet as a response option, for building one-time use systems, and for failing to automate NRFU data collection. Leading up to 2020, we acknowledge that the Bureau is undertaking a number of major initiatives to modernize its decennial operations. Further, we must accept that not all 2020 Census design innovations will perform as hoped—resulting in unrealized cost avoidance.

However, for stakeholders to have any confidence in the reengineered decennial census design cost estimate and cost avoidance figures, the Bureau must strengthen its accounting process—by documenting life-cycle-cost inputs, capturing and tracking project costs, and ensuring that all costs are included. I am hopeful that efforts to improve the life-cycle cost estimate are currently underway. The Bureau has started linking documentation to the variables in its estimate. And, this summer, the Secretary established a task force consisting of staff from the Secretary’s office, Office of Management and Budget, and outside consultants to identify cost overruns and review current and future budget projections. The task force is working closely with the Bureau to improve the life-cycle cost estimate, and we are looking forward to reviewing the final product.

Lastly, the Bureau is in a critical phase of decennial census planning. With the 2018 End-to-End Test in progress and early 2020 Census operations approaching, time is running out to put a



new Director in place to lead and guide the next decennial census to a successful outcome. We believe that permanently filling the top two Census Bureau positions should be a high priority for the Administration and Congress.

I am pleased to take your questions.

## **Carol N. Rice**

Carol N. Rice has over 25 years of federal government experience leading the oversight of a diverse portfolio of multimillion dollar programs. Since 1995, she has been a professional staff member of the U.S. Department of Commerce (the Department) Office of Inspector General (OIG). She currently serves as an Assistant Inspector General managing the oversight of the Department's statistical and trade programs.

Ms. Rice leads a team of audit, program analyst, and statistician staff responsible for completing reviews of Departmental programs as well as provide audit and investigative support through data analysis. Her areas of expertise include decennial census preparations, U.S. Patent and Trademark Office operations, international trade, and export enforcement. She has held several positions within OIG, including Division Director and Senior Program Analyst.

She and her staff have been the recipients of numerous Departmental awards for their work in audits, evaluations and data analytics—including two Gold Medals, one Silver Medal, four Bronze Medals, and a Special Achievement Award; the Council of Inspectors General on Integrity and Efficiency (GIGIE) Glenn/Roth Award for Exemplary Service for 2010 Census Oversight; and CIGIE Award for Excellence in recognition in applying analytic techniques to identify cost savings

Prior to joining OIG, Ms. Rice served in the Department's Office of the Secretary as a management analyst for the Office of Management and Organization, as well as an operations research specialist in the Office of Program Planning and Evaluation.

Ms. Rice received her Bachelor of Science Degree in Public Administration from the University of Arizona, and a Master of Science in Public Administration from the Nelson A. Rockefeller College of Public Affairs and Policy, University of Albany. She also holds a Certificate for Advanced Study in Planning and Policy Analysis.