



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Economics and Statistics Administration**  
**U.S. Census Bureau**  
Washington, DC 20233-0001  
OFFICE OF THE DIRECTOR

MAR 11 2015

MEMORANDUM FOR: Guillermina Jasso  
Chair  
Census Scientific Advisory Committee

From: John H. Thompson  
Director  
U.S. Census Bureau

Subject: Responses to the Census Scientific Advisory Committee (CSAC)  
Recommendations

The U.S. Census Bureau thanks the CSAC for its advice and is responding to recommendations submitted as a result of the September 18-19, 2014 meeting.

Attachment

**Census Bureau Responses to the  
CSAC-Scientific Advisory Committee  
Recommendations from Fall 2014 Meeting**

**1. Census Enterprise Data Collection and Processing Systems (CEDCaP); and Reorganized Census with Integrated Technology (ROCKIT)**

**1.1. The committee was very pleased with the aspirational vision that we heard for both CEDCaP and ROCKIT. It is our experience that the devil is in the details and we are concerned that a program be developed that actually is going to get the systems implemented. We are very fortunate to have three members on CSAC that have had big system implementation experience and know the issues leading development of large systems.**

Census Response:

The Decennial Census and Information Technology Directorate's senior leadership appreciates your reaction to our plans for CEDCaP (Census Enterprise Data Collection and Processing) and ROCKIT (Reorganized Census with Integrated Technology). We agree that such efforts need close management attention, and cannot succeed without integrated efforts across the Census Bureau.

We agree with your suggestions of close collaboration and interaction with both internal and external stakeholders and experts. Since the inception of the concept, business experts and stakeholders have participated in identifying and developing the capabilities needed for our systems, and we agree that more involvement of the Committee experts would be welcome. We have already established an interdivisional team with representatives from the five directorates—Information Technology, Research and Methodology, Economic, Field, and Decennial.

The Census Bureau has formed a program management office and designated a Solutions Architect who has extensive experience in designing major systems for the IRS. In addition, we have formed an engineering team, including a Chief Program Engineer, whose members possess strong backgrounds in design and have significant experience implementing major systems in both the public and private sectors. At the request of the Department of Commerce (DOC), Chief Information Officer (CIO), the Census Bureau has undertaken an engagement with MITRE Corporation to assess the overall progress and risks associated with CEDCaP development, deployment, and operations planning, to verify the quality of the work that has been completed and provide senior executives the information needed to understand potential problems and how they may be addressed. The Census Bureau has also begun discussions with the United States Digital Service (USDS) to explore the capabilities and services offered by them in the areas of architecture, system design and development, and acquisitions. Furthermore, the Census Bureau has engaged industry directly in the form of requests for information and requests for proposals in areas including real time non-ID processing (of responses received without a pre-assigned Census identification number), respondent validation, and internet self-response tools.

The IT Directorate will establish a technology group to address your concerns about architecture and infrastructure risks associated with the Census Bureau's modernization initiatives. To ensure complete transparency and independence, the technology group will be led by an individual from an organization that is not directly involved in CSAC, CEDCaP, ROCKIT, or 2020 Census initiatives. The technology group will identify industry experts in architecture, infrastructure, and governance. The Census Bureau, together with the technology group, intends to cast a wide net for industry experts with experience in large-scale systems engineering, logistics, service-oriented architecture, cloud computing, application programming interfaces, and web services.

Once this independent advisory group is established, the group will prepare an initial agenda for the first meeting in early summer of 2015, currently planned for San Jose, CA. That meeting will focus on the Census Bureau's architecture and infrastructure plans for CEDaP from a technology and governance perspective.

**1.2. The committee would like to hear more details as things go forward about the actual approach, the organizational structure, the intent of which things will be done in house vs. contracted, how the contracting relationships will be managed.**

Census Response:

The 2020 Program has a baselined and integrated 2015 Census Test schedule, has piloted the establishment of a resource loaded schedule for Non-ID Processing, and is bringing all 2020 Census Stakeholders together weekly through the Lifecycle Planning effort to mature out year activities. Additionally, we have established a team who will deliver the 2020 Census Operational Plan which will be released publically in Q1 FY16.

Recognizing that success of the 2020 Census will depend on a strong symbiotic relationship between the Decennial and IT directorates, we have begun a series of facilitated leadership offsites. The first was in July 2014, and it focused on building a partnership between the 2020 Census Program and IT Directorate. The second is coming up in February and will focus on integration.

It has already been established that all IT projects initiated in the Census Bureau will follow the IT governance process that includes the enterprise System Development Life Cycle established in October 2013. Because the CEDCaP systems will not only be developed for the 2020 Census, but also will be used by the Economic Census and current surveys for their data collection systems, the IT Directorate has developed a plan for the enterprise, including Service Oriented Architecture.

The IT Directorate has either completed or is currently working on alternatives analyses for build/buy decisions related to the IT infrastructure, including CEDCaP. We expect that any in-house solutions will be supported by contractor/engineers, developers, and testers to meet the requirements defined for the 2015, 2016, 2017, and 2018 testing in preparation for the 2020 Census.

Contracts will be managed by task managers through our certified contracting and project management staff. This includes the Contract Officers and Contracting Officer Representatives working in coordination with the project manager.

We look forward to opportunities to discuss these matters (the latest plans, results, issues, and so forth) at future committee meetings and with the new working group.

**1.3. We are worried, given our experience with the IT procurement within the government that it may go very wrong and as advisors, we would like to see what we could do to help it not go wrong. We want to know the roles and responsibilities, communications and management plan.**

Census Response:

We share your concerns about the difficulties of planning, developing, and implementing large IT contracts, and certainly are mindful of our own experiences last decade. For the same reasons, both the Government Accountability Office (GAO) and the DOC's Office of Inspector General (OIG) are monitoring our efforts closely.

We believe the success of the multi-directorate Reorganized Census with Integrated Technology (ROCKIT) team's efforts to date demonstrate how much we can accomplish when all areas of the Census Bureau work together on common problems and solutions. In recognition of the gap in Business Process Reengineering and the integration of these critical system components, the Census Bureau has recently created an office that reports to the Deputy Director in support of these efforts. The Office of Innovation and Implementation has the business lead in development of the CEDCaP systems which are key to the successful implementation of the 2020 Census. Stephanie Studds, who was so instrumental to the success of the ROCKIT team, has been named Chief of this office.

In addition, as mentioned in our response to recommendation 1.1 above, the Census Bureau has formed a program management office, designated a Program Engineer, Solutions Architect, and Security Engineer, and will be forming a working group to discuss our efforts, structures, processes, and the other matters mentioned in your recommendation. Finally, the Census Bureau intends to engage both the contracting specialists at USDS and the DOC CIO (mentioned in the responses to Recommendation 1, above) to draw upon their collective and extensive large-scale acquisitions experience.

**1.4. CEDCaP and ROCKIT are high risk and mission critical technology infrastructure for the Bureau in the next 5 years. Accordingly, we recommend establishing a new Working Group, with members drawn both from CSAC and from outside CSAC, to serve in an advisory capacity to the Bureau's selected systems management team on issues of CEDCaP and related IT systems. The Working Group would assume a kind of oversight and advisory activity on both ROCKIT and CEDCaP. It would be led by Jack Levis, with Dan Atkins and Jack Dangermond as participants from within CSAC, and expanded to include others from outside CSAC (specialists in IT infrastructure) who would be interested in supporting this effort. The Working Group would look at various issues of how the government intends to manage and oversee these projects, engage with contractors, set up the right incentives, follow through, and have management involvement. This Working Group would require that Census present their plans, detailing exactly what their management plan is, so the Working Group can have something to review.**

Census Response:

The Director welcomes the creation of new working groups based on specific needs for the Census Bureau in an effort to accomplish the mission. Working Groups, expectations, and working plans are established by the Census Bureau, following the standard operating procedures for the Census advisory committees. Further discussions on new working groups creation will continue as needed.

**1.5. We also recommend holding a Specialist Meeting in Santa Barbara.**

Census Response:

We agree this would be an excellent way to involve more specialists in our efforts. As mentioned above, we are planning a public meeting and technology exchange discussion to engage members of the CSAC and other experts.

Of course, in addition to the Committee, we already have multiple forums and opportunities to seek input from expert stakeholders. These include meetings with our National Advisory Committee, the advisory panels we have established with the National Academy of Sciences (Committee on National Statistics), our quarterly Program Management Reviews (now broadcast live on the Internet), the annual Joint Statistical Meetings, and consultations with the Association of Public Data Users, our State Data Centers, and Census Information Centers, to name a few forums.

We also are working with NAS to establish specialist workshops. The intent is to have NAS facilitate several sessions to review an initial draft of our 2020 Census Operational Plan and the supporting documentation created by the Operational Plan team. These sessions likely would occur both prior to the release of, and after the initial release of the 2020 Census Operational Plan. The purpose of these sessions is to share the information being developed with as wide a group of stakeholders as possible. We agree with the Committee that these types of exchanges only strengthen our programs.

For the public meeting and technology exchange discussion we are planning (see above), we envision multiple topics (rather than multiple meetings). We certainly agree that geographic topics regarding address canvassing as mentioned in Recommendation 2 below could be included, and like the idea of a call for contributed papers in advance of the meeting.

## 2. 2015 Census Address Validation Test (AVT)

With regard to using automated pattern recognition and image processing for Partial Block Canvassing, CSAC recommends that the Census Bureau organize a 2-3 day Specialist Meeting of academic, public, and private-sector experts. The goal of the meeting is to seek consistent and efficient solutions to the general problem of using imagery for automated change detection and to its application to Partial Block Canvassing. A call for participants should ask for submission of 2-3 page white papers containing a candidate's expertise, publications, and list of important challenges in the area.

### Census Response:

We agree this would be an excellent way to involve more specialists in our efforts. We would like to discuss this further at your next meeting, along with more discussion of some of the ways we plan to use imagery for automated change detection.

Of course, in addition to the Committee, we already have multiple forums and opportunities to seek input from expert stakeholders. These include meetings with our National Advisory Committee, the advisory panels we have established with the National Academy of Sciences (Committee on National Statistics), our quarterly Program Management Reviews (now broadcast live on the Internet), the annual Joint Statistical Meetings, and consultations with the Association of Public Data Users, our State Data Centers, and Census Information Centers, to name a few forums.

## 3. 2015 Administrative Records Modeling

We commend the Bureau for its efforts to test the use of administrative records in the proposed 2015 census test. The potential benefits are considerable for reducing the cost of non-response follow up and improving completeness of the 2020 Census. The planned usage of administrative records ranges from an initial determination regarding the existence and/or occupancy status of housing units to substituting administrative record information for households that are known to exist but where one or more contact attempts have failed.

### Census Response:

We appreciate this support from the Committee. The 2015 Census Test is critical for addressing the potential challenges associated with the use of administrative records, and as a building block for refining our methods. Results from that test will feed into our 2020 Census Operational Plan at the end of FY 2015, and refinements and other efforts will continue beyond that point.

There are four major areas of exploration:

1. Which files will we use, and what access issues will we need to overcome to obtain them?
2. How will we use the files? For example, to enumerate vacant units? To enumerate occupied units?
3. How will we process the files we receive from external sources through our matching, data processing, tabulation, and data dissemination systems?
4. How does use of these data affect the final quality of census results?

**3.1. The census enumeration reference date will be April 1, 2020. However, many administrative data sources, e.g., IRS records and USPS address files, as well as other potentially useful government administrative record files will have multiple different reference time points and thus are likely to provide incomplete information on unit occupancy on April 1, 2020. The Committee urges the Bureau to explore the possibility of accessing non-federal address lists that may provide more time-sensitive occupancy information, such as the UPS address files discussed in the September meeting.**

Census Response:

As we work with providers of these files, we agree it will be important to acquire records closest to Census Day in vintage. For example, in preparation for the 2015 Census Test, we negotiated with the IRS to receive Tax Year 2014 data in March 2015, whereas in the past we did not receive such information until July. We also will continue to work with UPS and others to obtain useful address lists to help us update the MAF.

**3.2. One of the principal administrative data sources the Bureau has identified is IRS tax record data. Because poorer households may not file tax returns it is important that the Bureau explore the use of additional administrative data sources, e.g., Supplemental Security Income (SSI) program, Medicaid records, the Supplemental Nutrition Assistance Program (SNAP), and Temporary Assistance to Needy Families (TANF) to name just a few that specifically target low income families.**

Census Response:

The Census Bureau is currently negotiating an agreement with the Social Security Administration (SSA) to obtain Supplemental Security Income (SSI) data. We are also in discussions with the Centers for Medicare and Medicaid Services to obtain Transformed Medicaid Statistical Information System (T-MSIS) data. We continue to pursue state program data, including Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), and the special supplemental nutrition program for Women, Infants, and Children (WIC). In 2014, six new state data use agreements were negotiated and signed.

We also agree on the need to explore additional sources that could potentially be utilized to help determine the occupancy status and population of non-responding units. This includes continuing to pursue partnerships with states to allow SNAP information to be used in our research. For example, we are working with a file from the State of New York's Office of Temporary Disability Office information. This office manages the SNAP, TANF, and other similar programs for the State of New York. As mentioned above, for the 2015 Census Test, the Census Bureau was able to work with the Internal Revenue Service to obtain monthly deliveries of 2014 tax returns starting in March 2015.

**3.3 The use of administrative records to fill in information for households that are known to exist but where contact attempts have failed at enumeration will be especially challenging. For example, most administrative records are unlikely to have information on race and Hispanic origin. Thus, the modeling of how well administrative records replicate the enumeration in the 2010 Census will be an important test of**

**whether administrative records are a reasonable source of household characteristics, and whether they provide usable information for imputation procedures. This evaluation should include an assessment of what types of households are likely to be captured and/or missed by administrative data sources.**

Census Response:

The Census Bureau agrees with this recommendation and is in the process of researching and assessing the use of administrative records in this manner using 2010 Census data. These assessments include evaluating the impact on occupancy status, population count, and demographic characteristics. The assessments will include how often race and Hispanic origin information can be obtained from either past Censuses or administrative record sources. The assessment will also include looking at how imputation procedures will be able to utilize available administrative record information in addition to other information to assign characteristics.

**3.4. Given the issues mentioned above, it is critical that the Bureau moves quickly forward with its modeling and evaluation work of various administrative record data. For example, the modeling based on the 2010 administrative data and the 2010 Census should be completed well in advance of field operations in 2015. This evaluation can further help refine current plans for field work and what administrative records are likely to be useful and for what purpose. It is also important that as many administrative data sources as possible are included in the 2015 test, including data from state run programs. Efforts should be devoted now to securing access to such data in states where the 2015 test will be implemented.**

Census Response: As stated in 3.2 above:

The Census Bureau is currently negotiating an agreement with the SSA to obtain SSI data. We are in discussions with the Centers for Medicare and Medicaid Services to obtain TMSIS Medicaid data. We continue to pursue state program data, including SNAP, TANF, and WIC. In 2014, six new state data use agreements were negotiated and signed. ADRM/CARRA is gathering requirements for a new commercial data acquisition, and we can do market research and acquire whatever data elements and timing are needed.

We also agree on the need to explore additional sources that could potentially be utilized to help determine the occupancy status and population of non-responding units. This includes continuing to pursue partnerships with states to allow SNAP information to be used in our research. For example, we are working with a file from the State of New York's Office of Temporary Disability Office information. This office manages the SNAP, TANF, and other similar programs for the state of New York. As mentioned above, for the 2015 Census Test, the Census Bureau was able to work with the Internal Revenue Service to obtain monthly deliveries of 2014 tax returns starting in March 2015.

**3.5. The committee recognizes that the Bureau must operate on a rigorous timetable for making design decisions for the 2020 Census. The timeline for the final design decisions (September 2015) is tight and leaves little time for discussion of the 2015 test results, which are scheduled to become available next summer. It would be important to solicit further feedback from CSAC once the results of these tests are in. In addition, the Bureau should solicit feedback from Census Bureau state- and city-level partners who are knowledgeable of local conditions and administrative data sources.**

Census Response:

We agree the timing is tight, but we will do our best to provide initial information to the Committee via the new working group (see above), our quarterly Program Management Reviews (now broadcast live on the Internet) and at future CSAC meetings. Even after we make our design decisions this fall, we will continue to

refine our 2020 Census Operational Plan based on the 2015 Census Test results, as well as test results from 2016 and beyond.

#### 4. 2015 Optimizing Self-Response Test (Non-ID Processing)

**No recommendations or information requests at this time. However, the committee is thinking about proposing a specialist meeting.**

##### Census Response:

We appreciate the Committee's attention to this topic. For the public meeting and technology exchange discussion we are planning (see above), we envision multiple topics (rather than multiple meetings). We certainly agree that optimizing self-response and non-ID processing could be included as topics.

#### 5. Income, Poverty and Health Insurance Statistics

CSAC suggests that the Census Bureau hold two Specialist Meetings with experts from within and outside of the federal government about new edits for the Health Insurance data collected in the CPS ASEC. The first meeting should be convened very soon, where Census Bureau researchers would discuss their various ideas with the expert group in order to gain overall advice for promising direction at a time when that advice can have a major effect on the development of edits. The second meeting with experts should still occur as soon as possible, but after work on the new edits has been done and there is detailed write-ups of methodologies and preliminary results as to how well the new edits work.

##### Census Response:

The Census Bureau thanks CSAC for the advice on holding Specialist Meetings. At this time, we are planning to hold at least one meeting early this spring to get input from external experts on both the health insurance edits and the income edits. We will decide on the feasibility of a second meeting later in the year.

#### 6. Big Data

**CSAC requests an update at the next meeting, as well as interim reports on internal steps and outreach. The update should report how the contextual discussion at the September meeting translates into specific exploration/discussion, practical problems of predictability, and how to get to usable results.**

##### Census Response:

The Census Bureau will be pleased to update the committee on activities surrounding "Big Data." In particular, we will discuss how we have followed up from discussion at the September 2014 CSAC meeting.

#### 7. CSAC Member Travel

The CSAC continues to have problems with the travel arrangements made through the Census Bureau Travel Office and its travel agency. For the 9/18/14- 9/19/14 CSAC meeting, some committee members' travel/hotel went smoothly, but there were still serious problems for others. These problems are not new and include (but are not limited to): excessive time needed to make required travel arrangements; many follow-up e-mails to achieve confirmed bookings; the uncertainties involved in having reserved but un-ticketed air travel which can cause last-minute problems at the airport; incorrect names on tickets; and

cancelled or non-existing hotel reservations. This is more than an annoyance; it constitutes a serious distraction for committee members that can be expected to have a negative influence on continued CSAC service. Travel issues also take away from important discussion time during our executive meetings. CSAC respectfully requests that the Census Bureau name a "Travel Concierge" to be in charge of travel arrangements for committee meetings. The concierge would manage "travel" for the benefit of committee members and work to avoid lost time and major inconveniences because of being forced to use contract carriers; would understand the difference between a reserved air ticket and a confirmed air ticket; appreciate that a misspelled name can mean the TSA will not allow travel; assure that each hotel reservation comes with a confirmation number transmitted to the committee member; and generally safeguard against other inconveniences to travel.

Census Response:

In response to the CSAC members travel concerns for the September 2014 Meeting, the Conference and Travel Management Services Branch (CTMSB) is providing the following responses:

1. Concern: Excessive time needed to make required arrangements.

Response: CTMSB provides administrative letters via e-mail to committee members that includes information such as the deadline for registration to attend the meeting and making travel reservations. This ensures that reservations are made, hotel rooms are secured, and the issuance of tickets are done in a timely manner. There have been instances in which there were delays due to problems with the system (such as, travel system being down), funding (projects, end/new year), and approved travel authorization. In these instances, CTMSB worked with the appropriate sponsoring division staff to resolve these issues immediately.

The DOC Travel Handbook states:  
C301-10.103

Contract City-Pair Fare tickets are normally issued three (3) business days in advance, provided the travel management service provider has the employee's travel order and other required documentation. Employees may request issuance earlier (not to exceed 30 days prior to travel) or later, if preferred.

2. Concern: Many follow-up e-mails to achieve confirmed bookings.

Response: When travel reservations are made, ADTRAV e-mails committee members confirming travel itineraries with the subject line, "Status: Awaiting Ticketing." Once ADTRAV receives approved travel authorization from Census, traveler will receive an e-ticket in a second e-mail with subject line, "Status: Tickets have been issued."

Committee members are asked to contact CTMSB (travel concierge) directly at 301-763-2308. CTMSB will address any travel issues in an effort to eliminate committee concerns and follow-up e-mails.

3. Concern: Reserved but un-ticketed air travel.

Response: There have been instances which travel has been created and the reservation has been made with a non-contract carrier. This causes a delay because CTMSB was not notified in advance. Additionally, in some instances the travel authorization was not approved, therefore, the ticket cannot be released by ADTRAV. CTMSB routinely sends reminders to the approvers so we can avoid these types of delays. Instructions are now incorporated in the administrative letters sent to committee members.

4. Concern: Incorrect names on travel tickets, which may cause problems at airport.

Response: Travelers create their own profile in ADTRAV's RezProfile. This information is used to create tickets. Therefore, it is important that all information is entered correctly and verified. Names on tickets must match identification presented at the airport. All travelers need to verify the spelling of their name and to/from destination on their itineraries before ticketing.

5. Concern: Cancelled or non-existing hotel reservations.

Response: A list is provided to the hotel for rooming reservations. Once the reservations are made, the hotel returns the list with confirmation numbers. Rooms are released only when advised to do so by the attendees or sponsoring office; the hotel is immediately notified. CTMSB sends the sponsoring office a registration report which identifies the attendees, check-in/check-out dates, and other pertinent information. Per request, CTMSB will provide hotel confirmation numbers to committee members and the sponsoring office.