

US Census Bureau

FY 2016 President's Budget

Speakers

Moderator

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Background

United States Census Bureau

No Time to Lose

Continued investment in real-world testing of our innovations is needed now to save \$5 billion while maintaining quality.

WHY THESE NEXT FEW YEARS ARE CRITICAL

The 2020 Census will be unlike any other in our nation's history. We must test every aspect of this complicated program. Simple on its face, the census requires years of careful planning. By 2018 we must complete all tests and "lock in" our plans.

2020 Census

- 330+ million people
- 120+ million households
- 9 months to merchandise, process, validate data, and produce the results
- 1 chance

Fewer Staff, Fewer Offices + Less Burden
Up to \$5 Billion in Savings

Why Invest Now?

Potential Cost Comparisons for the 2020 Census by Fiscal Year

Re-engineering the Census: Prototype, Test, Build, Integrate

Interactive Testing of All Components Needed to Conduct the Census

- Small-Scale Individual Tests
- Medium-Scale Household Tests
- Large-Scale End-to-End Test of Census Operations and Systems
- Full Test End-to-End Systems & Procedures
- Refined Individual Tests
- Build IT Systems & Procedures
- Final Test End-to-End Systems & Procedures
- Census Begins Early Operations
- Census Count the People
- Tabulate Results

Timeline: 2015 (Identify major test sites), 2016 (April 1 Census Test), 2017 (April 1 Census Test), 2018 (April 1 Census Test), 2019 (April 1 Census Test), 2020 (April 1 Census Test)

Cost Saving Innovations We're Developing

- Better Address Validation:** Validate the Address List using the U.S. Postal Service, web imagery and other sources, rather than making every street in the nation.
- Better Use of Existing Information:** Use Existing Government and Commercial Records to reduce respondent burden.
- Better Response Options:** Make Responding to the Census More Convenient by offering mobile, online, phone and mail options.
- Better Field Operations:** Use Technology to better manage and track field visits. Use GPS-Enabled Technology to efficiently route and manage field staff. Use Smart Phones and Tablets for follow-up rather than pen and paper.

United States Census Bureau

Invest Now for a Cost-Effective 2020 Census

Innovation Leads to Greater Fiscal Responsibility

The U.S. Census Bureau is at a critical juncture. Continued investment in research and development will produce an accurate and cost-effective 2020 Census.

What Is a Census?

Q: When does the counting process start?
A: As mandated by the U.S. Constitution, America gets one chance each decade to count its population. The next census in 2020 will require counting an estimated 330 million people in more than 120 million housing units. To get an accurate count, the Census Bureau must build an accurate address list of every housing unit, household and response in the census, and ensure all who live there are included. It is the largest mobilization and operation conducted in the United States and includes years of research, planning, testing and development of methods and procedures to ensure an accurate and complete count.

Q: What is the Census Bureau doing differently?
A: The Census Bureau is testing and developing innovative and efficient methods to increase the response rate, decrease the number of non-response interviews, use electronic technology and computer operations without losing the accuracy of the survey. These changes have the potential to save taxpayer money compared to the cost of repeating the 2010 census, increasing accuracy and reduce the burden on respondents.

2010 Census in Review

500,000 Census Offices
100,000 Staff on the Ground

More Expensive 2020 Census: More Than 1,000,000 Census Offices, More Than 700,000 Staff on the Ground

Cost-Effective 2020 Census: 500,000 Census Offices, 100,000 Staff on the Ground

Increased Follow-Up Workload | Reduced Follow-Up Workload

Elements of a Cost-Effective Census

- Use the Internet to increase self-response.
- Use information people have already given the government to answer Census questions and reduce follow-up workload.
- Automate operations to increase productivity and reduce staff and offices.
- Update existing maps and addresses to reflect changes rather than waiting every block in every neighborhood in America.

Fewer Staff, Fewer Offices + Less Burden
Up to \$5 Billion in Savings

Why Now?

America gets one chance each decade to count its population accurately. The Census Bureau must start making major decisions next year about the methods it will use to get the job done in 2020. Without funding to research and develop systems and operations in 2015, the risk and costs will be much higher. Investing now will save billions of dollars later.

Benefits of Research

2020 Census Lifecycle

2014: Identify major test sites of the 2020 Census, and develop new, innovative methodologies to streamline the operations.

2015: Develop and test major innovations for the 2020 Census. Conduct end-to-end system tests. Over the ground operations where necessary.

2016: Develop and test major innovations for the 2020 Census. Conduct end-to-end system tests. Over the ground operations where necessary.

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2020: Census Day. April 1 Census Day. April 1 Census Day. April 1 Census Day.

United States Census Bureau

Transforming Data Collection and Processing

The U.S. Census Bureau is moving to a smarter, more cost-efficient way of managing core Information Technology aspects of censuses and surveys. The new Census Enterprise Data Collection and Processing (CEDCaP) program will streamline data collection and processing systems, ultimately saving taxpayers' money.

Why CEDCaP?

The CEDCaP program will develop a suite of systems and supporting infrastructure to handle data collection and processing for the nearly 100 surveys and 3 censuses within the Census Bureau.

In the past, it was common practice at the Census Bureau to develop new and unique data collection and processing systems for each survey or census. To obtain these "silos" systems were tailored to the specific survey's needs and weren't reusable across multiple surveys.

This is the motivation for the CEDCaP initiative. The new approach will be flexible enough for use by all our programs. As we build the new systems over the next several years, we'll retire the old survey-specific systems with their redundant capabilities. We'll bring a much greater portion of the Census Bureau's total IT expenditures under a single, integrated and centrally managed program.

Smarter, more efficient, and more cost-effective, CEDCaP will transform the way we do business in the 21st century.

Siloed Approach

Many 100 surveys and 3 censuses use several dozen unique systems to perform the same data processing and collection functions.

New CEDCaP Approach

From dozens of unique systems to a small suite of shared, reusable systems

CEDCaP Integrated Suite of Systems

ALL SURVEYS & CENSUSES

ALL SURVEYS & CENSUSES

CEDCaP Benefits

Eliminate Redundant Systems
End One-Time Build and Use
+ Leverage Shared Services

Savings and Efficiencies

From Siloed to Integrated
From Survey-Specific to Shared Services
From One-Time Use to Build Once, Reuse Repeatedly
From Redundant to Efficient
From Siloed Knowledge to Shared Knowledge, Practices
From Fixed Design to Scalable, Adaptive Design
From Business Systems to Business Processes

Why Now?

We are building NOW so it will be ready to handle our largest data collection and processing needs: The 2017 Economic Census, the 2019 (and future) American Community Survey, and the 2020 Census.

Key Programs	PRODUCTION DATES						
	Economic Census	American Community Survey	Decennial Census	Economic Census			
INTEGRATED META-DATA	2015	2016	2017	2018	2019	2020	2021
INTEGRATED DATA COLLECTION	2015	2016	2017	2018	2019	2020	2021
INTEGRATED SURVEY DESIGN AND DELIVERY	2015	2016	2017	2018	2019	2020	2021
INTEGRATED DATA PROCESSING	2015	2016	2017	2018	2019	2020	2021
ADAPTIVE SURVEY CHANNELS / MODELS / INTERFACES	2015	2016	2017	2018	2019	2020	2021
DEVELOPMENT, TEST AND DEPLOYMENT OF SHARED OPERATIONAL CENTRAL RESPONSE MANAGEMENT DATA SECURITY AND AVAILABILITY	2015	2016	2017	2018	2019	2020	2021

Agenda

- Overview of the FY 2016 Request
- FY 2016 Initiatives and Program Changes
- Budget Table and New Budget Structure

FY 2016 Census Request

- The total request is \$1,498.4 million
- For Current Surveys and Programs, we are requesting \$277.9 million
- For Periodic Censuses and Programs, we are requesting \$1,220.5 million

FY 2016 Significant Investments

- **2020 Census (\$663M)**: We have the potential to save \$5 billion with the new 2020 Census design, however, we now have to build operations and systems for the 2020 Census, based on the new design.
- **CEDCaP (\$78M)**: Smarter-IT Delivery Built on a Shared-Services Model.
- **American Community Survey (\$257M)**: We must maintain the quality of the data while continuing our efforts to reduce respondent burden.
- **Geographic Support (\$81M)**: We must make use of technology and partnerships to deliver smarter geographic solutions to our surveys and censuses.
- **Administrative Records Clearinghouse (\$10M)**: Will expedite the acquisition of federal and federally sponsored administrative data sources, improve data documentation and linkage techniques, and leverage and extend existing systems for governance, privacy protection, and secure access to these data.
- **Economic & Government Censuses (\$144M)**: Data products drive economic activity and are relevant to the needs businesses, policymakers, and the public. \$10.1 million increase

Committed to cost containment and quality of the data

Reengineered Address Canvassing: \$23.5 million total request

Our efforts to add new addresses to the address list using technology instead of sending Census employees to walk and check 11 million blocks will save approximately \$1.0 billion.

- We will reengineer address canvassing operations by:
 - Conducting a 2016 Early Operations Test focused on the implementation of address canvassing and the processes used to conduct work in the office and in the field.
 - Analyzing and refining statistical models for use in understanding the ongoing quality of the Master Address File.
 - Using aerial imagery and change detection techniques to conduct in-office reviews of the country.
 - Designing the operation in an environment where only geographic areas identified as undergoing change will be included as part of the in-field address canvassing workload.
 - Testing an application usable on commercially available handheld devices that allows users to review and update address and road data in the field.

Committed to cost containment and quality of the data

Optimizing Self Response: \$88.1 million total request

Our efforts to encourage the population to respond to the 2020 Census using the Internet will save \$548 million.

- We will continue our efforts to optimize self-response to decrease the amount we must spend on “boots on the ground” in-person follow-up by:
 - Conducting a 2016 Field Operations Test that focuses on optimizing self-response, including how people respond using the Internet, mobile computing devices, telephone assistance, and paper questionnaires.
 - Determining how best to use targeted communications and partnerships to promote language support options and reach historically hard-to-count populations.
 - Continuing development of Internet data response infrastructure, including the use of a Cloud environment.
 - Further testing of methods to attach addresses to responses that do not have a Census ID code, ensuring that they are counted properly and placed in the correct location.
 - Developing new methods to support telephone response and questionnaire assistance.

Committed to cost containment and quality of the data

Administrative Records: \$10.1 million total request

Our efforts to reuse data that people have already provided to the Federal or their State government for 2020 has the potential to save \$1.2 billion.

- We will further develop our plans for using administrative records and third-party data to reduce non-response follow-up workload by:
 - Testing the use of administrative records and third-party sources to eliminate vacant households and to enumerate households that do not respond.
 - Developing and implementing capabilities and interfaces to support administrative record and third-party production activities, such as data processing, tabulation, and dissemination.
 - Testing the fitness of use of various administrative records and third-party data sources, focusing on coverage and quality.

Committed to cost containment and quality of the data

Reengineer Field Operations: \$210.5 million total request

Our efforts to use sophisticated systems to send Census employees to follow up with non-responding households and track daily progress will save approximately \$2.3 billion.

- In support of reengineered field operations, we will
 - Test the Operational Control System that will assign case workloads to field staff
 - Develop and test the automated enumeration instruments that reside on smartphones, enable real-time case/workload management, enable route planning, and enable electronic address updates.
 - Reengineer the field management structure to streamline supervisory structures and reduce costly face-to-face meetings between supervisors and enumerators.
 - Continue developing automated field training.

Committed to cost containment and quality of the data

2020 Operations: \$330.4 million total request

Finally, there is work we must do to begin preparing for the Census, no matter the design, including:

- Begin planning and designing operations in Puerto Rico and the Island Areas, as well as operations to enumerate prisoners, college students, and the military.
- Engage state and local governments in geographic programs, such as the Boundary and Annexation Survey.
- Planning and designing operations that ensure quality control during the Census and evaluations of how well we did once the Census is completed.
- Planning for programs that are mandated by law such as the Census Redistricting Data Program and the Local Update of Census Addresses.
- Conduct program management and systems engineering and integration, as well as support the program's share of Census Bureau infrastructure (such as IT Security and Support).

Committed to cost containment and quality of the data

CEDCaP Planned increase of \$9.5 million/\$77.6 million total request

CEDCaP is Smarter-IT Delivery Built on a Shared-Services Model.

- In FY 2016, CEDCaP will deliver several systems into production for the 2016 Census Test like the Control and Response Data System (CaRDS) and the Multimode Operational Control System (MOCS).
- CEDCaP will provide the foundation for 2020 data collection and processing operations and eventually for all Censuses and surveys.
- The portion in the Enterprise Data Collection and Dissemination Systems PPA supports the enterprise backbone that makes CEDCaP possible.
 - Increase of \$7.4 million/\$36.8 million total request.
- The portion in the 2020 Census contains the operational and data processing components.
 - Increase of \$2.1 million/\$40.8 million total request.

Finding innovative solutions to longstanding problems

Program increase \$15.2 million / \$256.8 million total request

We will strengthen the quality of the entire American Community Survey data set while enhancing the respondent's experience and reducing respondent burden

- ***Improve data quality of the entire data set:***
 - Reinstating the quality improvement operation that collects data that was left incomplete by respondents
- ***Enhance respondent experience and improve quality:***
 - Reinstatement of Field Representative Refresher Training
 - Reinstatement of observations of field representatives by their supervisors
- ***Reduce respondent burden:***
 - Research new data collection procedures
 - Continue questionnaire content review
- ***Expand communications with stakeholders***
- ***We are proposing permanently discontinuing the 3-year product***

Finding innovative solutions to longstanding problems

Program change of \$21.4 million / \$81.1 million total request

The Geographic Support Systems Initiative supports our ability to conduct a reengineered address canvassing operation for the 2020 Census as well as geographic requirements of current surveys.

Activities include:

- Increased field work to update address coverage in rural areas via the Community Address Updating System from 1,500 blocks to 10,000 blocks per year.
- Increased production capability to analyze, resolve quality issues, and mine address files received from state and local partners.
- Research into the use of commercial source data and other administrative records to update the address list.
- Research on the use of imagery to identify areas of the country experiencing change.
- Research and development into characteristics of Group Quarters, which cannot be accurately identified in the Postal Service's Delivery Sequence File – the largest source of address information coming into the Census Bureau.
- Update of the address list in Puerto Rico.

Enhancing data products used by businesses, policymakers and the public

Administrative Records Clearinghouse \$10 million

The proposed Administrative Records Clearinghouse will allow us provide powerful new insights and evidence for sound decision-making .

- Data are collected by the government on programs that provide assistance to people and businesses but the data sets are not linked in a way to easily enable program analysis.
- The FY 2016 request includes a proposal to:
 - Expedite the acquisition of federal and federally-sponsored administrative data sources,
 - Improve the techniques used to document the various data sets and link them to each other, and
 - Ensure that the data are safeguarded and that their use is closely monitored to ensure privacy and confidentiality.
- This will create an infrastructure that permits timely and high quality program evaluation via the Census Bureau's Research Data Centers.

Enhancing data products used by businesses, policymakers and the public

Economic Census and Census of Governments Planned increase of \$12.5 million / \$143.8 million total request

In FY 2016, we will:

- Complete the comprehensive review of 2012 Economic Census to inform the 2017 cycle and prepare for 100% electronic response.
- Finalize content and begin forms design for the 2017 Economic Census and Census of Governments.
- Complete the organization component questionnaires for the 2017 Census of Governments.
- Expand outreach initiatives with industry including new visualizations and analytical tools that provide information on facts and trends that support policy makers and industry.
- Complete the data releases for the 2012 Survey of Business Owners (SBO) by December 30, 2015 (six months earlier than in the previous cycle).
- The introduction of NAPCS is a major implementation for 2017 that impacts the entire survey life cycle for the Economic Census.

Ends collection of health insurance coverage questions in two formats in Current Population Survey and reinstate the Information and Communications Technology Survey

No Net Increase

(Increase of \$1.7 million in Current Economic Statistics)

(Decrease of \$1.7 million in Current Demographic Statistics)

- The ICT Survey is suspended in FY 2015 to make funds available to the Current Population Survey to ask questions related to Health Insurance coverage in two different forms.
- The ICT provides data on spending for information and communication technology equipment and computer software.
- Industry analysts and businesses use the ICT data for market analysis, economic forecasting, product development, and business planning.
- BEA uses the data to cover this sector in the National Income Product Accounts
- There is a corresponding decrease in the Current Demographic Statistics program, reflecting the termination of the old health insurance question format for FY 2016.

Finding innovative solutions to longstanding problems

- The Center for Enterprise Dissemination Services and Consumer Information will unleash the power of Census Bureau content by transforming the way we disseminate data to the public.
- The centralized approach to dissemination will enable us to adopt agile, more convenient ways for the public to use our data by moving away from static products like tables and PDFs and toward greater use of APIs and other dissemination methods that enable the user maximum opportunity for customization.
- The result will be Census Bureau data and products that are more easily consumed, understood and applied by more people.

Proposed Restructuring of the Census Bureau's Budget

- The FY 2016 request contains a proposal to restructure the Census Bureau's budget.
- The new structure is to redefine the Salaries and Expense account to a Current Surveys account and realigns monthly and annual surveys into this account.
- In Periodic Censuses and Programs:
 - Establishes a new PPA (Enterprise Data Collection and Dissemination Systems) that contains enterprise systems that have cyclical funding patterns.
 - Terminates the Data Processing Systems PPA
- This structure more closely aligns the appropriations accounts with the Census Bureau's programmatic structure.
- We believe that this proposal better aligns programmatic activities, simplifies the appropriations structure, leads to greater transparency in the Census Bureau's budget, and will lead to improved execution of resources.

Cooperative Agreements

- The FY 2016 request includes a proposal to provide the Census Bureau with the ability to utilize cooperative agreements in support of its program activities.
- These agreements provide the flexibility that traditional contracts and interagency agreements cannot, by promoting collaboration and partnerships.
- They will enable our subject matter experts in survey methodology and survey measurement to engage with leading experts in technical areas (e.g., statistical methodology, satellite imagery, advanced computational programming, data analytics) or social science or econometrics.
- A key example of the potential:
 - Passive data collection from businesses has the ability to increase the frequency and detail of the economic data we publish
 - We can accelerate our ability to accomplish this by combining the expertise in statistical methodology at universities and non-profits and at the Census Bureau to fundamentally change our methods to move from structured survey data to unstructured data
 - To accomplish this we need to connect with the business community through trade associations

Evaluation Funding Flexibility Pilot

- Extends period of availability to September 30, 2020 for contracts statistical activities in support of research and evaluation. Allows for deobligated funds on contracts to be available.
- Statistical surveys are essential to building evidence for program evaluation. They are also inherently complicated, dynamic activities; they often span many years. In some cases the study design may need to be altered part-way through the project in order to better respond to the facts on the ground.
- The available procurement vehicles lack the flexibility needed to match the dynamic nature of these projects. It is frequently desirable to cosponsor these activities in order to efficiently extend the utility of the data collected. Changes in timing and content can make cosponsorship difficult, since funds are often time-limited.
- This request is a part of a larger proposed pilot program which includes HHS's Assistant Secretary for Planning and Evaluation and the Office for Planning, Research and Evaluation in the Administration for Children and Families; The Department of Labor's Chief Evaluation Office and Bureau of Labor Statistics; The Department of Justice's National Institute of Justice and Bureau of Justice Statistics; and the Department of Housing and Urban Development's Office of Policy Development & Research. These flexibilities will allow agencies to better target evaluation and statistical funds.

U.S. Census Bureau FY 2016 Budget Request

(Discretionary Budget Authority in Millions)

	FY 2014 Actuals	FY 2015 Enacted	FY 2016 Estimate	Difference From FY 2015	Percentage Change from FY 2015
Current Surveys and Programs:					
Current Economic Statistics	\$180.5	\$184.2	\$191.6	\$7.4	4.0%
Current Demographic Statistics	93.5	84.4	86.2	1.8	2.1%
<i>(Intercensal Demographic Estimates)</i>	10.3	9.9	10.2	0.3	3.0%
<i>(Demographic Surveys Sample Redesign)</i>	9.9	9.6	9.9	0.3	3.1%
Total CS&P	274.0	268.6	277.8	9.2	3.4%
Periodic Censuses & Programs:					
Periodic Economic Programs	129.3	128.2	143.8	15.6	12.2%
<i>(Economic Census)</i>	119.9	119.2	134.9	15.7	13.2%
<i>(Census of Governments)</i>	9.4	9.0	8.9	(0.1)	-1.1%
Periodic Demographic Programs	462.4	575.5	919.4	343.9	59.8%
<i>(2020 Census)</i>	228.9	344.6	662.6	318.0	92.3%
<i>(American Community Survey)</i>	233.5	230.9	256.8	25.9	11.2%
Geographic Support	57.2	58.2	81.1	22.9	39.3%
Enterprise Data Collection & Dissemination Systems	21.0	55.9	76.3	20.4	36.5%
Total PC&P	669.9	817.8	1,220.6	402.8	49.3%
TOTAL (Budget Authority)	\$943.9	\$1,086.4	\$1,498.4	\$412.0	37.9%

*Table may not add due to rounding.

Questions?

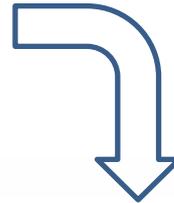


Dial *1 for the Operator

For More Information:

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- Infographics
- Budget Summary
- Today's Slides
- Speaker Bios
- Links to Additional Budget Information



Next 2020 Program Management Review: April 8

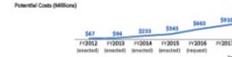
- Live Streamed
- Previous Reviews Online
- Details in the coming weeks

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 Better Address Validation, Better Use of Existing Information, Use Existing Governmental and Commercial Records to reduce respondent burden.

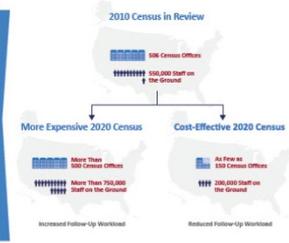
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Q: What gets into counting a census?
 A: As mandated by the U.S. Constitution, America gets its share from decisions to count its population. The next census in 2020 will require counting an increasing number and growing population of about 380 million people in more than 140 million housing units. To get an accurate count, the census bureau must build an accurate master list of every housing unit, maintain and respond to the census, and follow-up with those who do not respond. It is the largest and most complex operation in the U.S. Census Bureau and requires years of research, planning, testing and management of finances and infrastructure to ensure an accurate and complete count.

Q: What is the Census Bureau doing differently?
 A: The Census Bureau is re-engineering and developing innovative and efficient methods to enhance the response rate, decrease the number of field office interviews, use workflow productivity and improve the operations without changing the accuracy of the census. These changes have the potential to save the nation money and improve the quality of housing unit methods in 2020, reduce accuracy, and ensure the accuracy of responses.

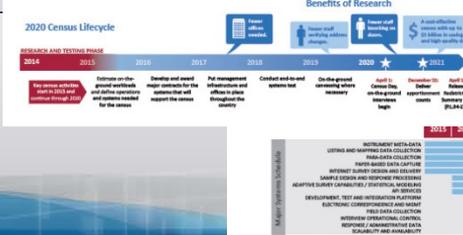


Elements of a Cost-Effective Census

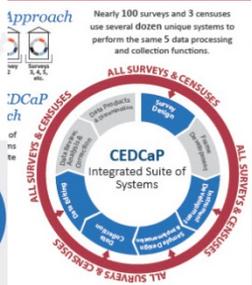
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Integrated Data Collection and Processing
 Most efficient way of managing core information
 Census Enterprise Data Collection and Processing systems, ultimately saving taxpayers' money.



**Eliminate Redundant Systems
 End One-Time Build and Use
 Reduce Risk
 + Leverage Shared Services
 Savings and Efficiencies**