2020 Census
Program Management Review

The 2020 Census Operational Plan

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United States Census Bureau
U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

The Decennial Census

Purpose:

To conduct a census of population and housing and disseminate the results to the President, the States, and the American People

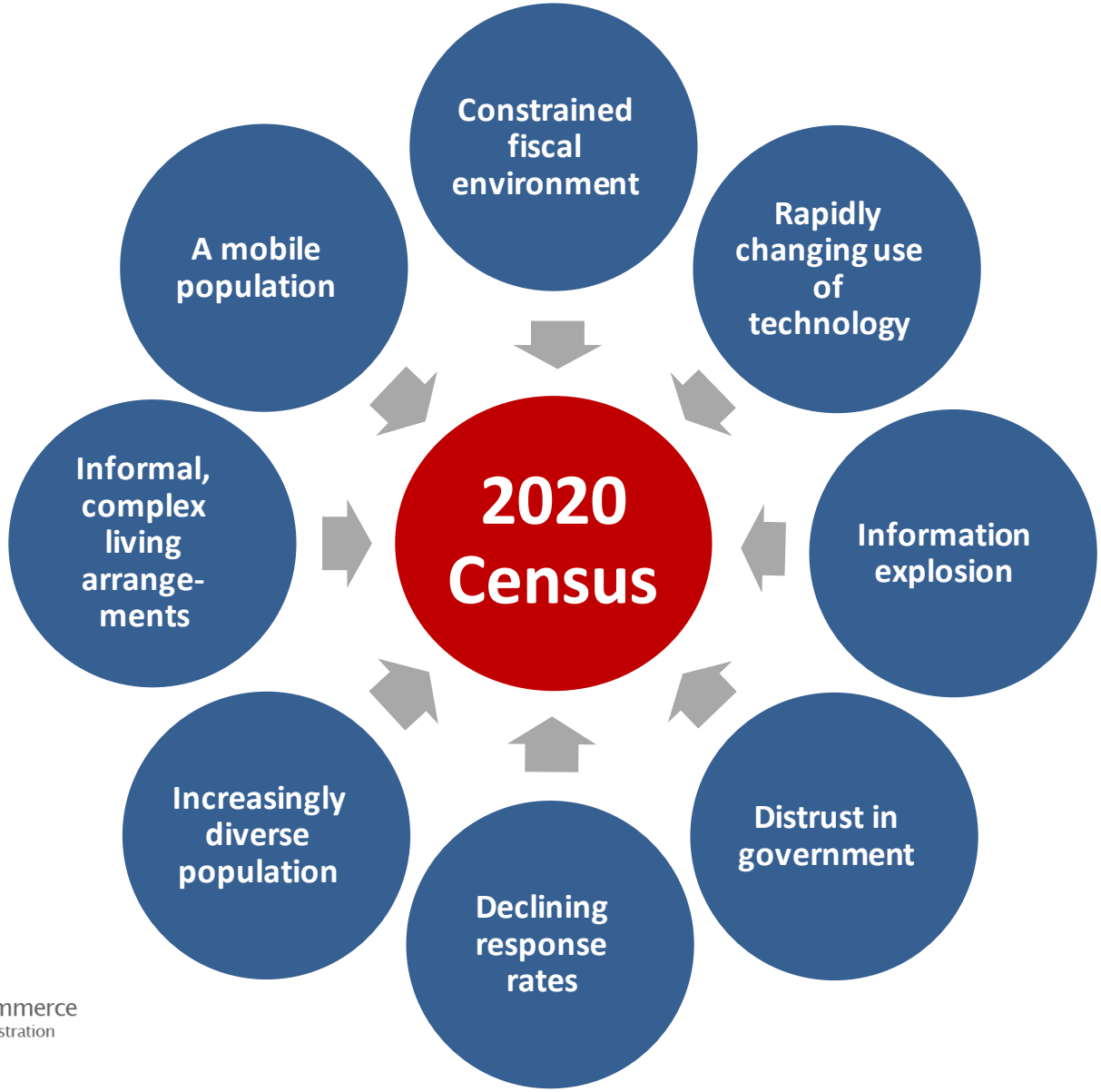
Primary Uses of Decennial Census Data:

- Apportion representation among states as mandated by Article 1, Section 2 of the United States Constitution:

  Representatives and direct Taxes shall be apportioned among the several States which may be included within this union, according to their respective Numbers … The actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and **within every subsequent Term of ten years**, in such Manner as they shall by Law direct.
- Draw congressional and state legislative districts, school districts and voting precincts
- Enforce voting rights and civil rights legislation
- Distribute federal dollars to states
- Inform federal, tribal, state, and local government planning decisions
- Inform business and nonprofit organization decisions (e.g., where to locate, size of the market)
- Provide population benchmark for nearly every other United States survey

The 2020 Census Environment

The 2020 Census is being conducted in a rapidly changing environment, requiring a flexible design that takes advantages of new technologies and data sources while minimizing risk to ensure a high quality population count.



The 2020 Census Goals and Key Innovation Areas

Overarching Goal: To count everyone once, only once, and in the right place.

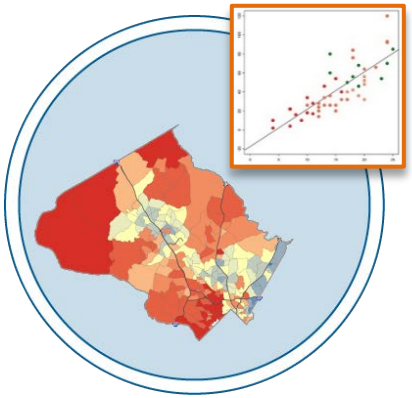
Challenge Goal: Conduct a 2020 Census at a lower cost per household (adjusted for inflation) than the 2010 Census, while maintaining high quality results.

Focus on Four Key Innovation Areas

- Reengineering Address Canvassing
- Optimizing Self-Response
- Utilizing Administrative Records and Third-Party Data
- Reengineering Field Operations

Reengineering Address Canvassing

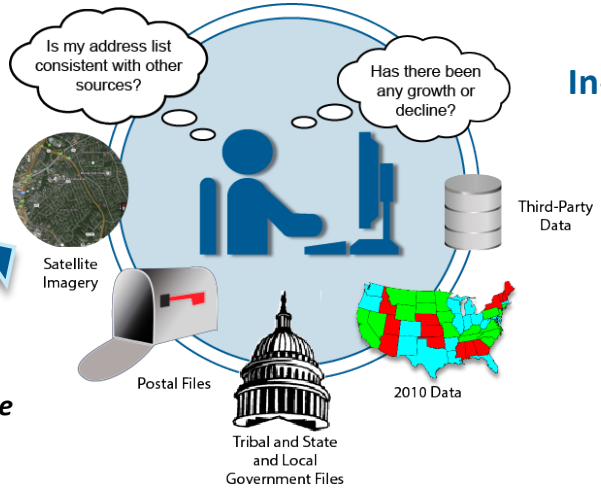
Reduce the nationwide In-Field Address Canvassing by developing innovative methodologies for updating and maintaining the Census Bureau's address list and spatial database throughout the decade.



Continual Research and Updating

Ongoing Process for
In-Office Canvassing

Where Should We Start?



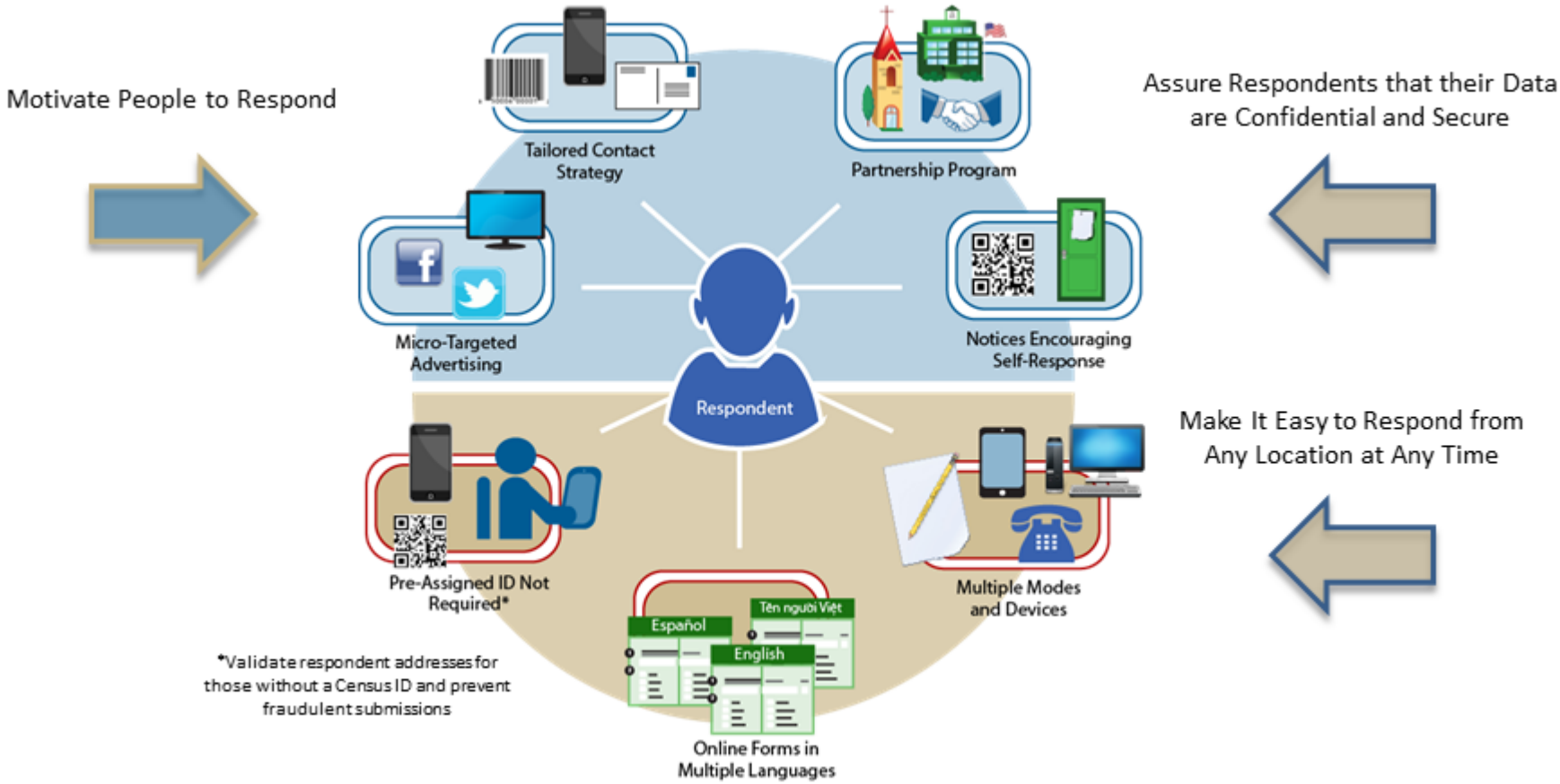
In-Office Address Canvassing

In-Field Address Canvassing

Address List and Spatial Database

Optimizing Self-Response

Generate the largest possible self-response, reducing the number of households requiring follow-up.



Utilizing Administrative Records and Third-Party Data

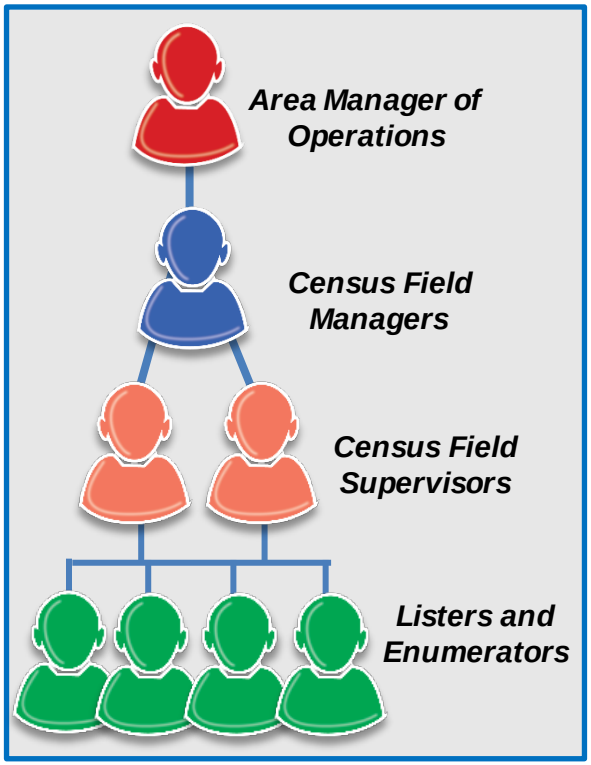
Use information people have already provided to reduce expensive in-person follow-up.

Improve the Quality of the Address List	Update the address list	Validate incoming data from federal, tribal, state, and local governments
Increase Effectiveness of Advertising and Contact Strategies	Support the micro-targeted advertising campaign	Create the contact frame (e.g., email addresses and telephone numbers)
Validate Respondent Submissions	Validate respondent addresses for those without a Census ID and prevent fraudulent submissions	
Reduce Field Workload for Followup Activities	Remove vacant and nonresponding occupied housing units from the nonresponse followup workload	Optimize the number of contact attempts

Reengineering Field Operations

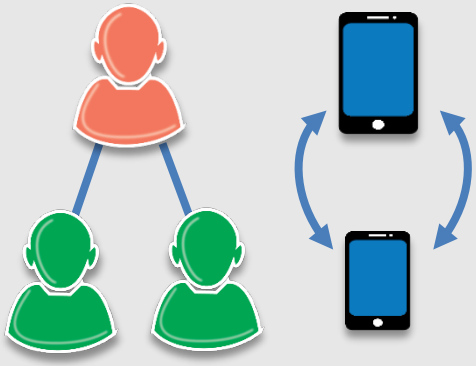
Use technology to more efficiently and effectively manage the 2020 Census fieldwork.

Streamlined Office and Staffing Structure



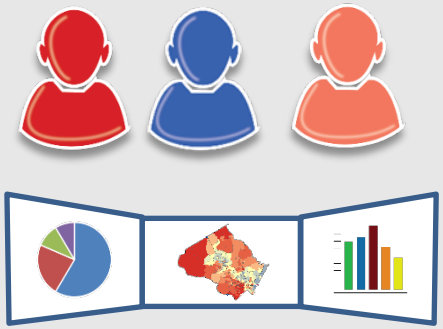
Increased use of Technology

- Automated and optimized work assignments
- Automated recruiting, training, payroll and expense reporting
- Ability to conduct address updates and enumeration on same device
- Reduced paper and manual processing



Increased Management and Staff Productivity

- Increased visibility into case status for improved workforce management
- Redesigned quality assurance operations
- Improved communications



Bringing It All Together

The 2020 Census: A New Design for the 21st Century

Motivate People to Respond

Conduct a nation-wide communications and partnership campaign

Maximize outreach using traditional and new media

Target ads to specific audiences

Work with trusted sources to inspire participation.

TELEPHONE AND PAPER SELF-RESPONSE

NONRESPONSE FOLLOWUP

INTERNET SELF-RESPONSE

Count the Population

Collect data from all households, including group and unique living arrangements

Make it easy for people to respond anytime, anywhere

Encourage people to use the new online response option

Use the most cost-effective strategy to contact and count nonrespondents

Knock on doors only when necessary

Streamline in-field census-taking

Establish Where to Count

Identify all addresses where people could live

IN-FIELD

IN-OFFICE

Conduct a 100% review and update of the nation's address list

Minimize field work with in-office updating

Use multiple data sources to identify areas with address changes

Get local government input

Release Census Results

Process and Provide Census Data

Deliver apportionment counts to the President by December 31, 2020

Release counts for redistricting by April 1, 2021

Make it easier for the public to get data

The Status of the 2020 Census Operations

SUPPORT

Program Management
- Program Management

Census/Survey Engineering
- Systems Engineering & Integration
- Security, Privacy, and Confidentiality
- Content and Forms Design
- Language Services

Infrastructure
- Decennial Service Center
- Field Infrastructure
- Decennial Logistics Management
- IT Infrastructure

FRAME
- Geographic Programs
- Local Update of Census Addresses
- Address Canvassing

RESPONSE DATA
- Forms Printing and Distribution
- Update Enumerate
- Nonresponse Followup
- Paper Data Capture
- Group Quarters
- Response Processing
- Integrated Partnership & Communications
- Enumeration at Transitory Locations
- Federally Affiliated Americans Count Overseas
- Internet Self-Response
- Census Questionnaire Assistance
- Non-ID Processing

PUBLISH DATA
- Data Products and Dissemination
- Redistricting Data
- Count Review
- Count Question Resolution
- Archiving

OTHER CENSUSES
- Island Areas Censuses

TEST AND EVALUATION
- Coverage Measurement Design & Estimation
- Coverage Measurement Matching
- Coverage Measurement Field Operations
- Evaluations and Experiments

Detailed planning is underway

Detailed planning has recently begun

Detailed planning has not started

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Major Design Decisions for the 2020 Census (1 of 6)

Establish Where to Count

- In-Office Address Canvass will be conducted for 100 percent of housing units
- In-Field Address Canvass will be conducted for 25 percent of housing units
- The number of Area Census Offices (ACO) in support of Address Canvassing will be reduced from 151 in 2010 to approximately 30 in 2020
- The crew leader assistant position will be removed from the staffing structure for In-Field Address Canvassing due to increased efficiencies from automation
- Administrative records and third-party data sources will be used to validate addresses within each block
- Production Address Canvassing begins September 2015

Major Design Decisions for the 2020 Census (2 of 6)

Motivate People to Respond

- An Internet self-response option will be provided and will be available in languages other than English and Spanish, including those with non-Roman alphabets (number of responses via this mode estimated at 47 percent after 6 weeks)
- Census Questionnaire Assistance (CQA) will complete interviews by telephone (number of responses via this mode estimated at 5.3 percent after 6 weeks)
- A paper response option will be provided (number of responses via this mode estimated at 11.2 percent after 6 weeks)
  - Paper questionnaires will be sent to 20 percent of all housing units during the first mailing
  - Paper questionnaires will be mailed to non-responding housing units after 2 weeks of self-response (estimated at 59.7 percent of total housing units)
- The 2020 Census will offer respondents the opportunity to respond either without a unique census identification code or to respond via telephone agents
- A formal "Notify Me" option will not be offered

Major Design Decisions for the 2020 Census (3 of 6)

Count the Population

- Administrative records and third-party data will be used to identify vacant units (approximately 11 percent of housing units removed)
- Nonresponding housing units will be visited at least once (approximately 22.5 percent of the remaining nonresponding followup workload resolved through this visit)
- Administrative records and third-party data will be used to enumerate remaining nonresponding housing units (approximately 16.5 percent of the remaining nonresponse followup workload enumerated via these data)
- Administrative records and third-party data will be used to reengineer the Vacant/Delete and Coverage Followup Operations
- Coverage improvement operations will be included

Major Design Decisions for the 2020 Census (4 of 6)

Count the Population (Continued)

- The Nonresponse Followup Operation will utilize a reengineered field management and staffing structure due to increased efficiencies from automation:
  - Change in ratio of production enumerators to Census Field Supervisors from 8:1 in 2010 to 15:1 in 2020
  - Removal of crew leader assistants
  - Reduced number of trained enumerators (by approximately 50 percent)
- The Nonresponse Followup Operation will consist of production and quality assurance components
- The Group Quarters operation will allow an individual to self-respond and self-identify the group quarter type for the facility in which he or she resides
- Census Questionnaire Assistance will not collect questionnaire data via email or web chat, nor will it accept emails with PDF attachments, faxes, or Internet uploads of completed Census questionnaires
- Text messaging will not be used as a data collection mode

Major Design Decisions for the 2020 Census (5 of 6)

Infrastructure Support

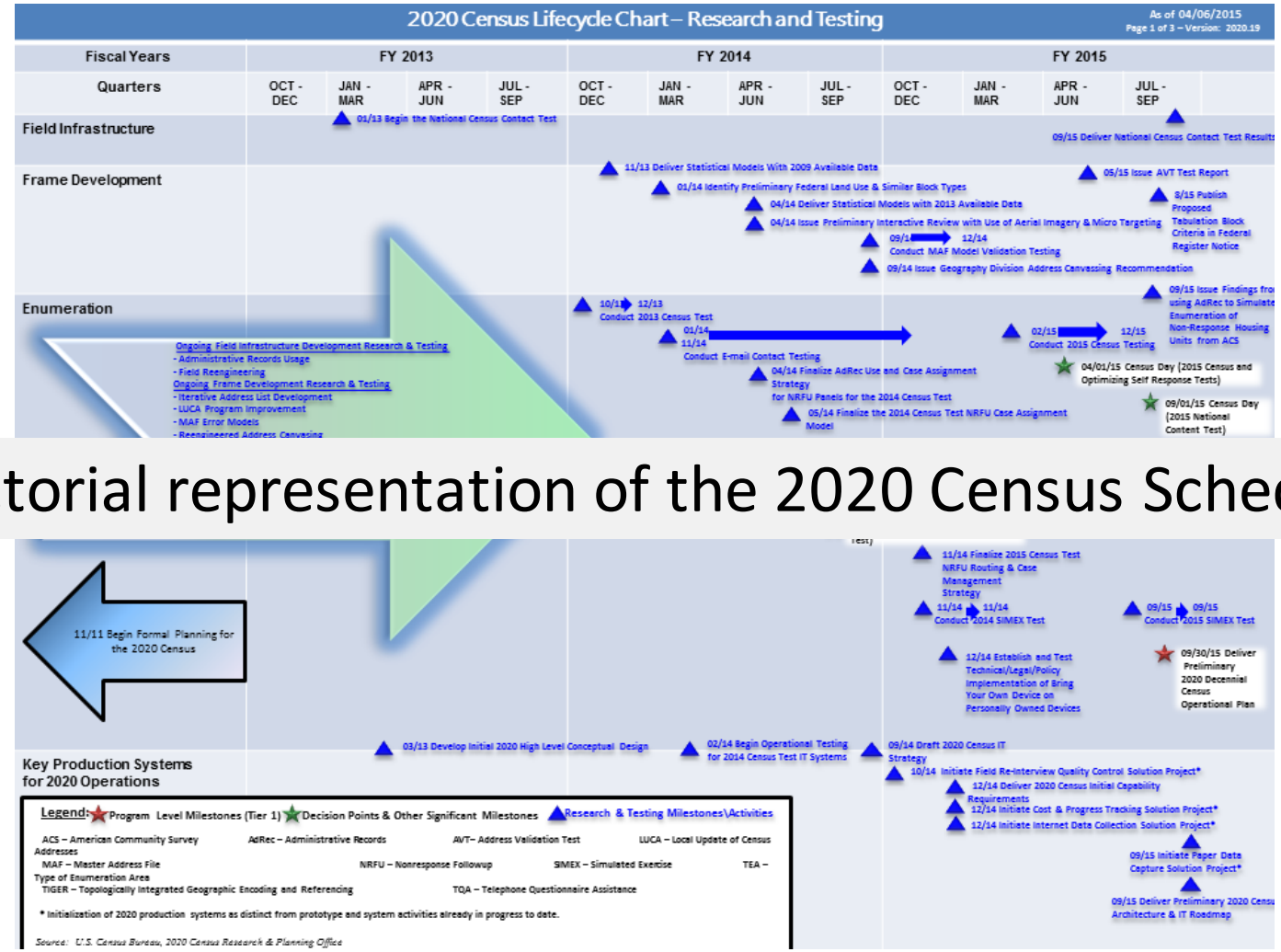
- The 2020 Census field office infrastructure will include six Regional Census Centers (reduced from 12 in 2010)
- The 2020 Census field office infrastructure will include up to 250 field offices (reduced from 494 in 2010)
- The number of training hours for Address Canvassing will reduce from 35 in 2010 to 28 in 2020 and for Nonresponse Followup from 44 in 2010 to 28 in 2020
- The training pay rate for Address Canvassing and Nonresponse Followup (both enumerators and Census Field Supervisors) will be $1.50 lower than the production rate
- The 2020 Census will have two paper data capture centers
- Whenever technically feasible and cost effective, enterprise solutions will be used in support of the 2020 Census (e.g., iCADE is the planned paper data capture system for the 2020 Census)
- A hybrid cloud design will be used for scaling Census Enterprise Data Collection and Processing (CEDCaP) systems when needed for the 2020 Census

Major Design Decisions for the 2020 Census (6 of 6)

Release Census Results

- The tabulated 2020 Census data will be available to the public through the Center for Enterprise Dissemination and Consumer Service Innovation (CEDSCI)

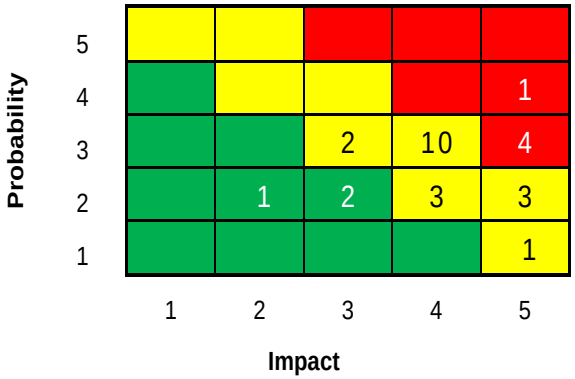
2020 Census Schedule



Pictorial representation of the 2020 Census Schedule

Summary of Key 2020 Census Risks (1 of 6)

The selected risks that follow represent the major concerns that could affect the design or the successful implementation of the 2020 Census. The full risk register is available upon request.



Risk Context: To execute a 2020 Census that reduces cost while maintaining quality, the Census Bureau requires appropriate funding for the entire life cycle.

Risk ID	Title	Risk Category	Risk Statement	P, I	Mitigation
LC-040	Funding Requests Not Realized	Financial	**IF** the funding appropriated for each fiscal year during the 2020 Census life-cycle is less than requested or not provided at the start of each fiscal year, **THEN** the Census Bureau will have to reprioritize the projects, which may affect the ability to reengineer the systems and operations supporting the 2020 Census.	4,5	• Formulate and submit robust cost estimates (including contingencies for known and unknown risks) for planned 2020 Census activities per fiscal year • Develop strong budget justifications that demonstrate the negative impact of insufficient funds for 2020 Census activities per fiscal year • Prioritize research, testing, and implementation activities per fiscal year to focus on those areas that can significantly impact cost and quality, and develop contingency plans to quickly respond to budget cuts

Summary of Key 2020 Census Risks (2 of 6)

Risk Context: The Census Bureau is planning to use administrative records and third-party data to reduce need to followup with nonrespondents through the identification of vacant and deleted housing units (those that do not meet the Census Bureau's definition of a housing unit) and the enumeration of nonresponding HUs.

Risk ID	Title	Risk Category	Risk Statement	P, I	Mitigation
LC-033	Administrative Records and Third-Party Data - External Factors	Operational	**IF** external factors or policies prevent the Census Bureau from utilizing administrative records and third-party data as planned, **THEN** the Census Bureau may not be able to fully meet the strategic goal of containing the overall cost of the 2020 Census.	3,5	• Identify external stakeholders that have an interest in Census Bureau policies regarding administrative record and third-party data usage • Develop a stakeholder communications plan for identified external stakeholders • Regularly communicate to and seek feedback from identified external stakeholders on design decisions and research and testing results related to the use of administrative records and third-party data for the 2020 Census • Assess impacts of any changes to the design based on feedback from external stakeholders and update plans accordingly • Monitor external factors and policies that may impact the Census Bureau's planned use of administrative records and third-party data for the 2020 Census

Summary of Key 2020 Census Risks (3 of 6)

Risk Context: The accuracy and usefulness of the data collected for the 2020 Census is dependent upon the ability to obtain information from the public, which is influenced partly by the public's perception of how well their privacy and confidentiality concerns are being addressed.

Risk ID	Title	Risk Category	Risk Statement	P, I	Mitigation
LC-039	Public Perception of Ability to Safeguard Response Data	Reputation	**IF** a substantial segment of the public is not convinced that the Census Bureau can safeguard their response data against data breaches and unauthorized use, **THEN** response rates may be lower than projected, leading to an increase in cases for followup and cost increases.	3,5	• Develop a communications strategy to build and maintain the public's confidence in the Census Bureau's ability to keep their data safe • Research other Census Bureau divisions, other government agencies, and the private sector to understand how they effectively mitigate the issue of public trust and IT security • Continually monitor the public's confidence in data security in order to stay abreast of their probable acceptance of the Census Bureau's methods for enumeration • Prepare for rapid response to mitigate public concerns regarding any incidents that occur that could affect public perception of the Census Bureau's ability to safeguard response data (e.g., breach of data from another government agency)

Summary of Key 2020 Census Risks (4 of 6)

Risk Context: Security breaches could happen to the Census Bureau's Internet data collection instrument, mobile devices used for fieldwork, and data processing and storage systems. IT security controls will be put in place to block attempts from outside infiltration, as well as to prevent any negative impacts to services or data, such as network disruption (denial of services), technical malfunctions, and stolen or corrupted data.

Risk ID	Title	Risk Category	Risk Statement	P, I	Mitigation
LC-041	Cyber Security Incidents	Strategic	**IF** a cyber security incident (i.e., breach) occurs to the systems or devices being utilized for the 2020 Census, **THEN** additional technological efforts will be required to repair or replace the systems and devices affected in order to maintain secure services and data	3,5	• Monitor system development efforts to ensure the proper security guidelines are followed during the system development phase • Research other Census Bureau programs, other government agencies, and the private sector to understand how they effectively mitigate cyber security incidents • Audit systems and check logs to help in detecting and tracing an outside infiltration • Contract with third-party testers to perform threat and vulnerability analysis • Prepare for rapid response to address any detected cyber security incidents

Summary of Key 2020 Census Risks (5 of 6)

Risk Context: Technological innovations inevitably surface, but the 2020 Census program must move forward toward building the operational design, which will be finalized and put into production for the 2018 Census End-to-End Test.

Risk ID	Title	Risk Category	Risk Statement	P, I	Mitigation
LC-042	Technological Innovations Surfacing After Design is Finalized	Strategic	**IF** technological innovations surface after the design for the 2020 Census has been finalized, **THEN** development and testing life-cycle phases must be compressed if the innovations are adopted, resulting in less time to mature innovations in census methodologies and systems. **The closer it is to the start of the 2020 Census, the higher the impact of late operational design changes. Thus, while currently yellow, this risk will become red as it becomes later in the decade.*	3,4*	• Build versatile operations and systems design; • Keep team members and management aware of evolving technological innovations; • Devote dedicated resources to track and communicate innovations; and • Dedicate funds to incorporate innovations into the design.

Summary of Key 2020 Census Risks (6 of 6)

Risk Context: After key planning and development milestones are completed, stakeholders may disagree with the planned innovations behind the 2020 Census or the 2020 Census Senior Managers may decide to modify the design, resulting in late operational design changes.

Risk ID	Title	Risk Category	Risk Statement	P, I	Mitigation
LC-042	Late Operational Design Changes	Strategic	**IF** operational design changes are required following the completion of key planning and development milestones, **THEN** the 2020 Census program may have to implement costly design changes, increasing the risk for a timely and successful 2020 Census **The closer it is to the start of the 2020 Census, the higher the impact of late operational design changes. Thus, while currently yellow, this risk will become red as it becomes later in the decade.*	3,4*	• Identify external stakeholders that have an interest in the 2020 Census operational design • Develop a stakeholder communications plan for identified external stakeholders • Regularly communicate to and seek feedback from identified external stakeholders on design decisions and research and testing results • Assess impacts of any changes to the design based on feedback from external stakeholders and update plans accordingly • Monitor external factors and policies that may impact the Census Bureau's planned innovations for the 2020 Census operational design • Establish a change control management process to assess impacts of change requests to facilitate decision-making • Prepare for rapid response to implement change based on the results of the change control process

2020 Census Cost Estimates*

All of these figures are shown in 2020 constant dollars**

Cost of Repeating 2010 Census in 2020 Census	$17.8 Billion
Cost of Redesigned 2020 Census	**$12.5 Billion*** **
Potential Cost Avoidance	**$5.2 Billion**

Potential Cost Avoidance by Innovation Area:	
Reengineering Address Canvassing	$0.9 Billion ($6.30 in cost avoidance per HU)
Optimizing Self-Response	$0.4 Billion ($2.80 in cost avoidance per HU)
Utilizing Administrative Records and Third-Party Data	$1.4 Billion ($9.80 in cost avoidance per HU)
Reengineering Field Operations	$2.5 Billion ($17.50 in cost avoidance per HU)

Cost per HU of 2010 Census in 2020 Constant Dollars	$124 per HU
Cost per HU of Redesigned 2020 Census in 2020 Constant Dollars	$88 per HU

* This cost estimate assumes the President's Budget Request.

** This cost estimate is based on the 2020 Census Operational Plan as of September 30, 2015. Any changes to the Operational Plan will result in corresponding changes to the cost estimate.

*** This cost estimation approach follows the GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs.

Thank You