

# 2020 Census Operational Plan

## Executive Summary

Prepared by the Decennial Census Management Division,  
U.S. Census Bureau  
Version 2.0

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### INTRODUCTION

The U.S. Census Bureau's 2020 Census Operational Plan documents the design for conducting the 2020 Census. It reflects and supports evidence-based decision-making by describing design concepts and their rationale, identifying decisions made and remaining decisions, and describing remaining risks related to the implementation of the Operational Plan.

This document presents a summary of that plan. It includes an overview of the current 2020 Census

operational design and presents the high-level schedule of key milestones and the most critical project risks.

### The 2020 Census Program Includes a Broad Set of Documentation That Will Be Further Developed as the Program Matures.

As shown in Figure 1, this Executive Summary (shaded in yellow) is part of a broader set of documentation for the 2020 Census program.

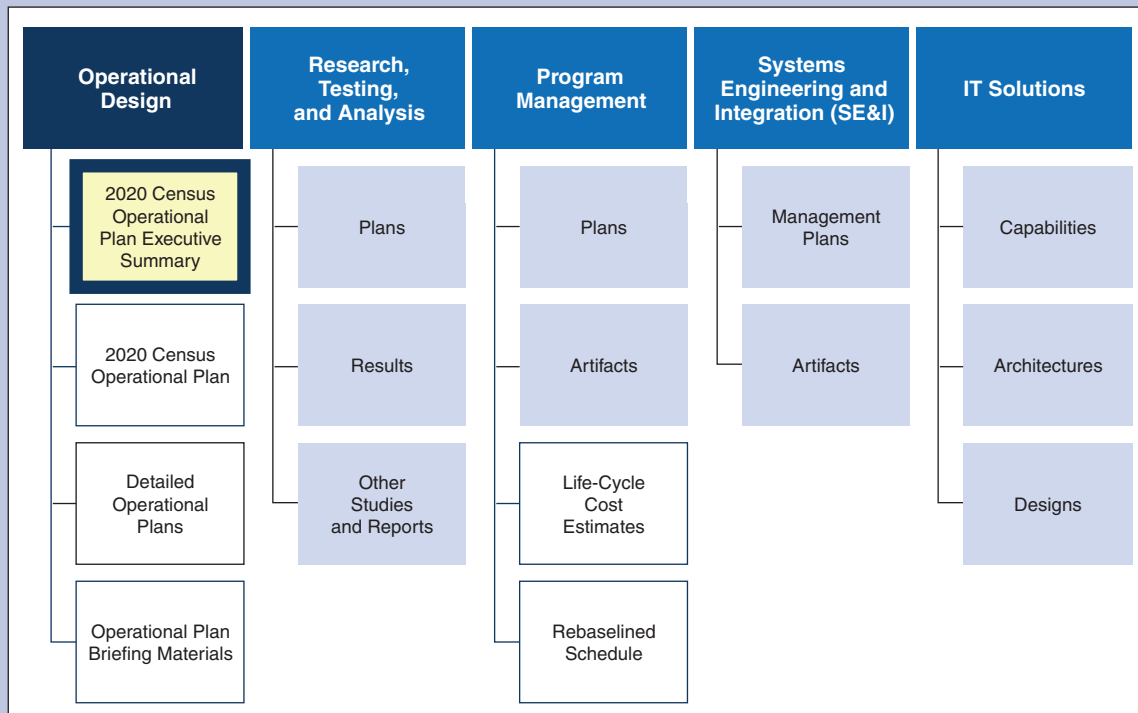
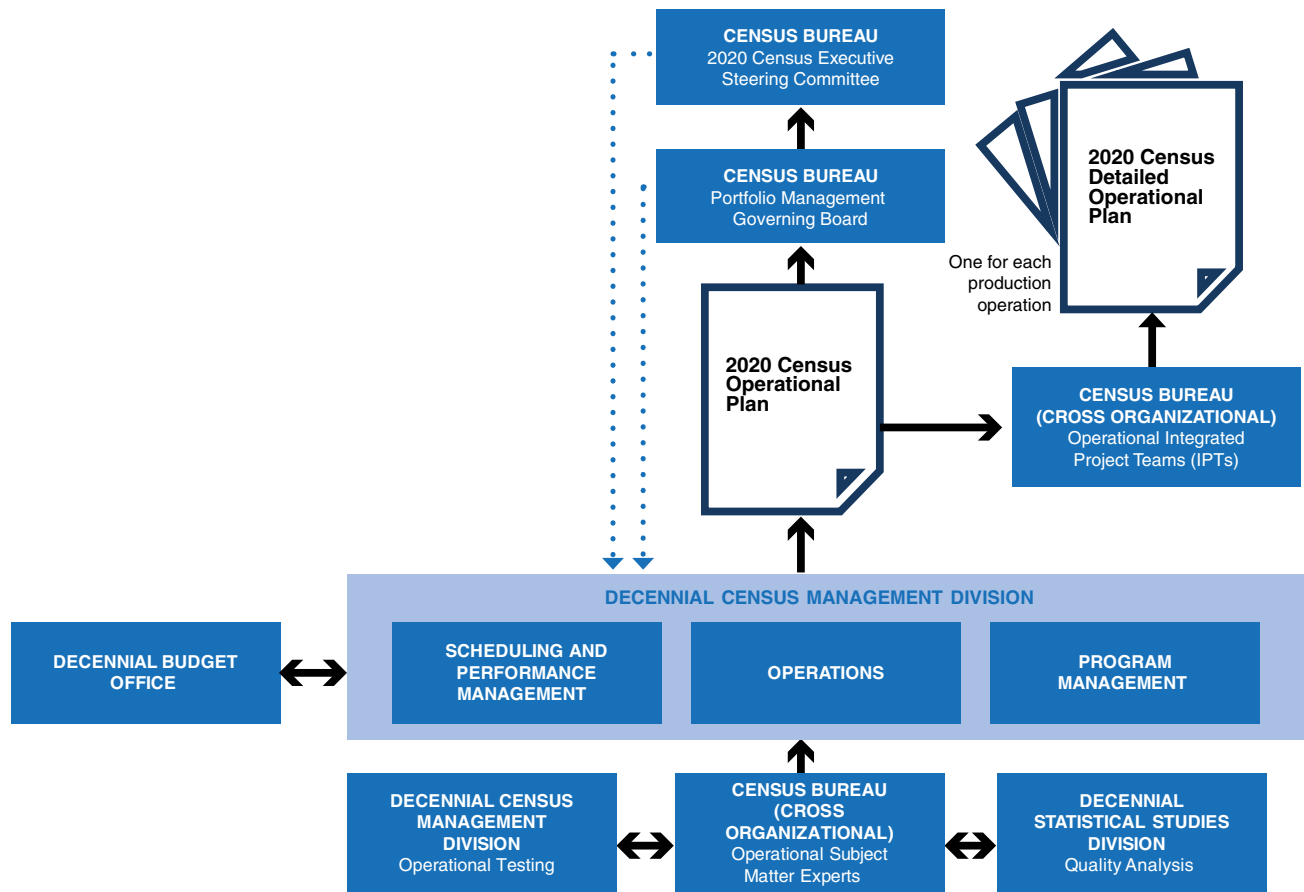


Figure 1: 2020 Census Program Documentation Structure



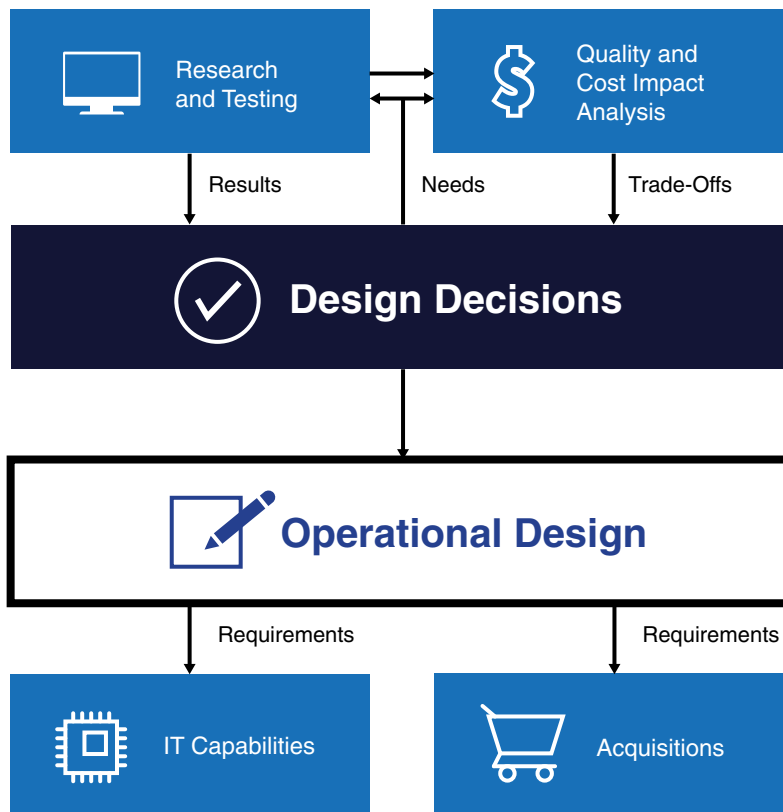
**Figure 2: Organizations and Governance Boards for the 2020 Census Operational Plan**

**Many Organizations Across the Census Bureau and the Decennial Census Directorate Have Been Involved in Developing the 2020 Census Operational Design.**

Figure 2 illustrates the various organizations and governance bodies involved in the development of the 2020 Census Operational Plan. The development of the 2020 Census Operational Plan Team is led by the Decennial Census Management Division, including Assistant Division Chiefs responsible for 2020 Census operations and support from program management and scheduling and performance management areas. Operational subject matter experts from throughout the Census Bureau and the quality analysis staff in the Decennial Statistical Studies Division are consulted. The

Decennial Budget Office analyzes the cost impacts of alternative operational designs and provides the life-cycle cost estimate. The Decennial Census Management Division also has a team responsible for overseeing operational testing and reporting on test results, which inform operational design decisions.

The 2020 Census Operational Plan has been reviewed and approved by the 2020 Census Portfolio Management Governing Board and the 2020 Census Executive Steering Committee. Operational Integrated Project Teams develop Detailed Operational Plans for almost every operation. These teams are composed of subject matter experts from across the Census Bureau, including the Information Technology (IT) and Field Directorates.



**Figure 3: Approach to the Operational Design**

**The 2020 Census Operational Design Comprises a Set of Decisions Informed Through Research, Testing, and Analysis.**

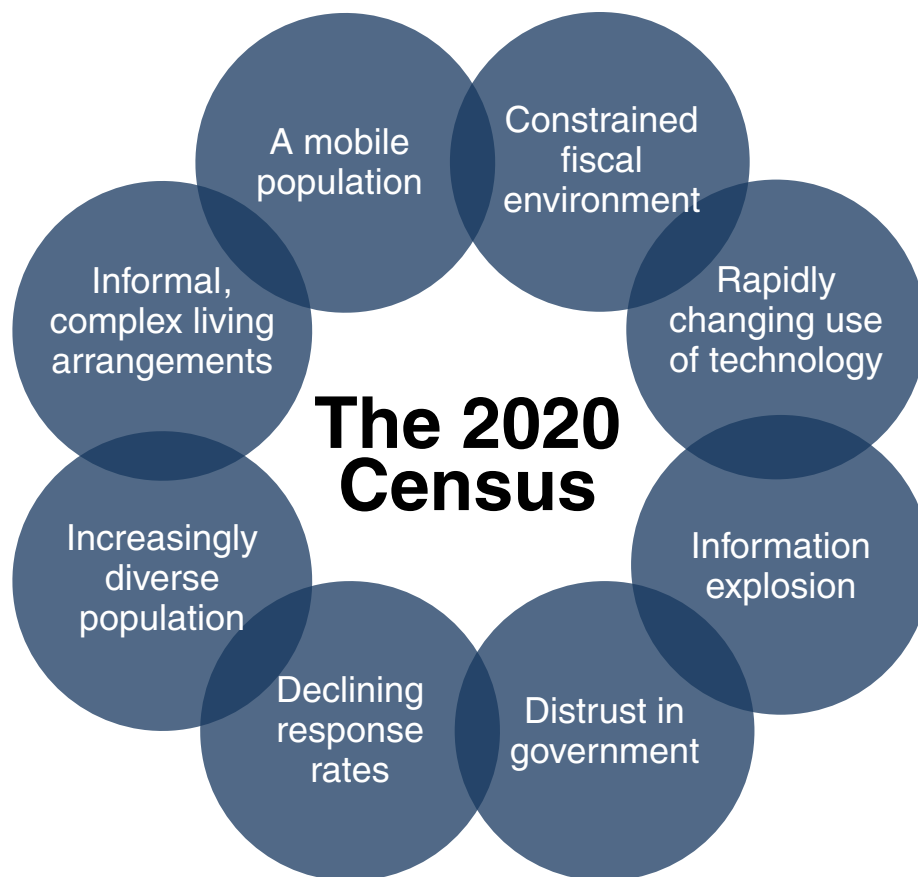
As shown in Figure 3, the operational design comprises a set of design decisions that drive how the 2020 Census will be conducted. These design decisions are informed through research, testing, and analysis. The operational design also drives the requirements for IT capabilities and acquisitions.

The 2020 Census has been designed and developed in an iterative fashion, incorporating results from tests conducted over the decade. Most design decisions have been made at this point. Adjustments to the design may be required based on analysis and results from the 2018 End-to-End Census Test.

**BACKGROUND**

**Decennial Data Support Multiple Important Uses.**

The purpose of the decennial census is to conduct a census of population and housing and disseminate the results to the President, the states, and the American people. Decennial data are used for many purposes. A primary use is for the apportionment of seats allocated to the states for the House of Representatives as mandated in the United States Constitution. Decennial data are also used by governmental entities for redistricting (defining the representative boundaries for congressional districts, state legislative districts, school districts, and voting precincts), enforcing voting rights and civil rights legislation, and determining the sampling frames



**Figure 4: 2020 Census Environment**

(address lists) for many Census Bureau surveys. These, in turn, support important government functions, such as appropriating federal funds to local communities (an estimated \$675 billion annually)<sup>1</sup>; producing unemployment, crime, and poverty rates; and publishing health and education data. Finally, decennial data are foundational to the information used by businesses to understand demographic, economic, and geographic trends required to inform critical business decisions.

### The 2020 Census Goal

The goal of the 2020 Census is to count everyone once, only once, and in the right place. The decennial data must meet high quality standards to ensure good decision-making and to continue building confidence in the government, society, and economy. This goal is challenged by multiple environmental factors, as illustrated in Figure 4. Several of the societal, demographic,

and technological trends shown can result in a population that is harder and more expensive to enumerate. The Census Bureau is committed to addressing the challenges proactively.

### 2020 Census Quality

Given the multiple important uses of Decennial data, it is critical that the data meet high-quality standards to ensure good decision-making and to continue building confidence in government data. The Census Bureau has begun analyzing the quality impacts of several key innovations related to address canvassing, self-response, and the use of administrative records and third-party data to reduce the workload for Nonresponse Followup. These analyses are potentially valuable in several ways, not only to measure quality, but also to predict operational and technical workloads. First, they point out dependencies and gaps among operations that warrant consideration as the census design moves from planning to implementation. Second, they help determine which factors

<sup>1</sup> "Uses of Census Bureau Data in Federal Funds Distribution," prepared by Marisa Hotchkiss and Jessica Phelan, U.S. Census Bureau, Washington, DC, September 2017, <[www.census.gov/library/working-papers/2017/decennial/census-data-federal-funds.html](http://www.census.gov/library/working-papers/2017/decennial/census-data-federal-funds.html)>.

# The 2020 Census Operational Overview



Count everyone once, only once, and in the right place.



## ESTABLISH WHERE TO COUNT

Identify all addresses where people could live.

Conduct a 100-percent review and update of the nation's address list.

Minimize in-field work with in-office updating.

Use multiple data sources to identify areas with address changes.

Get local government input.



## MOTIVATE PEOPLE TO RESPOND

Conduct a nationwide communications and partnership campaign.

Work with trusted sources to increase participation.

Maximize outreach using traditional and new media.

Target advertisements to specific audiences.



## 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 online response option.

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

Streamline in-field census taking.

Knock on doors only when necessary.



## 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 information.

**Figure 5: The 2020 Census—A New Design for the 21st Century**

(parameters) are the key drivers of cost and quality and must be constantly monitored and controlled, versus which factors must be addressed but play a less important role in the design. In addition, models can be run where multiple parameters are changed together and impacts of such changes can be seen. Similarly, sensitivity analyses can be run by changing one parameter while all others are held constant. With these analyses, it is possible to study the potential effects on quality of alternative operational designs.

## THE DESIGN OF THE 2020 CENSUS

The 2020 Census Operational Design includes all operations required to execute the 2020 Census, starting with precensus address and geographic feature updates, and ending once census data products are disseminated and coverage and quality are measured.

## The 2020 Census Is Designed for the 21st Century, Relying on Advances in Technology and Available Data To Reduce Cost, Maintain Quality, and Minimize Risk.

Figure 5 presents a high-level design for a 21st century 2020 Census.

The first step in conducting the 2020 Census is to identify all of the addresses where people could live, or **Establish Where to Count**. An accurate address list helps ensure that everyone is counted. For the 2020 Census, the Census Bureau began an In-Office review of 100 percent of the nation's addresses in September 2015 and continually updates the address list based on data from multiple sources, including:

- The U.S. Postal Service.
- Tribal, state, and local governments.

- 
- Satellite imagery.
  - Third-party data providers.

This office work will also determine which parts of the country require fieldwork to verify address information. In-Field Address Canvassing will occur in 2019 and is anticipated to cover approximately 30 percent of all addresses, a significant reduction from the nearly 100 percent that were reviewed in the field during the 2010 Census.

Response rates to surveys and censuses have been declining. To **Motivate People to Respond**, the 2020 Census will include a nationwide communications and partnership campaign. This campaign is focused on getting people to respond on their own (self-respond), as it costs significantly less to process a response provided by the Internet or through a paper form than it does to send an enumerator to someone's home to collect the response. Advertising will make heavy use of digital media, tailoring the message to the audience.

The Census Bureau **Counts the Population** by collecting information from all households, including those residing in group or unique living arrangements. The Census Bureau wants to make it easy for people to respond anytime and anywhere. To this end, the 2020 Census will offer the opportunity and encourage people to respond by the Internet and will encourage, but not require, people to enter a unique Census identification with their response. Online responses will be accurate, secure, and convenient.

For those who do not respond, the Census Bureau will use a cost-effective strategy for contacting and counting people. A goal for the 2020 Census is to reduce

the average number of visits by using available data from government administrative records and third-party sources. These data can be used to predict vacant households, determine the best time of day to visit a particular household, or to count the people and fill in the responses with existing high-quality data from trusted sources. Work assignments can be tailored to the best time to contact probabilities.

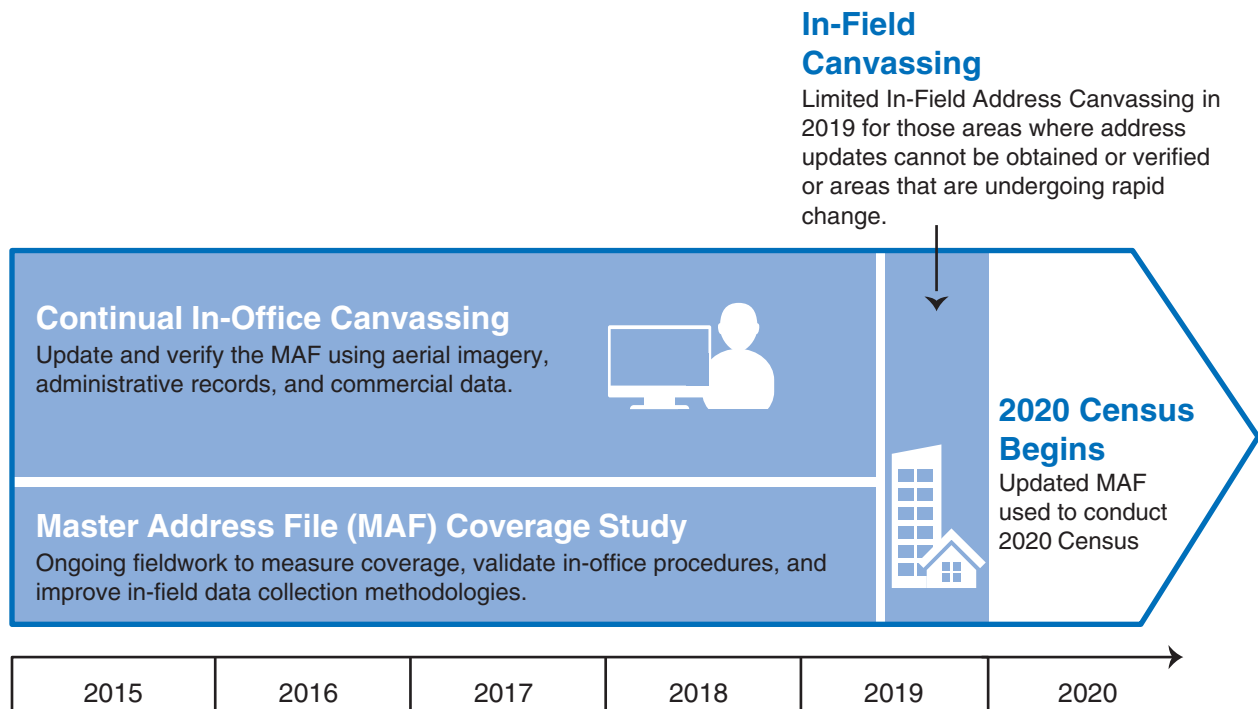
In addition, the majority of fieldworkers will use mobile devices for collecting the data. Tasks such as recruiting, training, and payroll will be automated, reducing the time required for these activities. New operational control centers will rely on automation to manage most of the fieldwork, enabling more efficient case assignment, automatic determination of optimal travel routes, and reduction of the number of physical offices.

The last step in the 2020 Census is to **Release the 2020 Census Results**. The 2020 Census data will be processed and sent to the President (for apportionment) by December 31, 2020, to the states (for redistricting) by April 1, 2021, and to the public beginning in December 2021.

### **Four Key Innovation Areas Encompass the Majority of Design Changes.**

The 2020 Census design focuses on four Key Innovation Areas, each of which is described below:

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



**Figure 6: Summary of Reengineering Address Canvassing**

**A Reengineered Address Canvassing Operation Significantly Reduces the Amount of Fieldwork Required To Produce a Quality Address List.**

The goal of the Reengineering Address Canvassing innovation area is to eliminate the need to canvass every block for address list and spatial updates. Instead, the Census Bureau is developing innovative methodologies for updating the Master Address File (MAF)/Topologically Integrated Geographic Encoding and Referencing (TIGER) System throughout the decade. Figure 6 highlights the key concepts in the Reengineering Address Canvassing approach.

Continual research and updating will be conducted through an In-Office Address Canvassing operation that began in September 2015 and continues through

the 2020 Census. Clerks start with the most recent Census Bureau address list and update it based on new information from the United States Postal Service and data from tribal, state, and local governments and third parties (i.e., commercial vendors). Clerks review satellite imagery to determine where changes in addresses are occurring, and based on these changes, the Census Bureau develops a plan for capturing those changes. This plan will include In-Field Address Canvassing where address updates cannot be obtained or verified or in areas undergoing rapid change. The number of addresses requiring In-Field Address Canvassing is expected to be approximately 30 percent of the total number of addresses.



\* Validate all Internet respondent addresses and prevent fraudulent submissions.

**Figure 7: Summary of Optimizing Self-Response**

**Multiple Methods and Tools Are Aimed at Generating the Largest Possible Self-Response, Reducing the Need to Conduct Expensive In-Person Follow-Up Activities.**

The goal of the Optimizing Self-Response innovation area is to communicate the importance of the 2020 Census to the U.S. population and generate the largest possible self-response. As shown in Figure 7, the Census Bureau plans to motivate people to respond by using technology and administrative records and third-party data to target advertisements and tailor contact strategies to different demographic groups and geographic areas. The Census Bureau also plans to utilize its partnership program, providing information to government agencies and hosting events with community, recreation, and faith-based organizations. Communication and contact strategies will encourage the use of the Internet as the primary response mode through a sequence of invitations and postcard mailings. In addition, Census Bureau enumerators will leave materials to encourage self-response.

A second key aspect of Optimizing Self-Response is to make it easy for people to respond from any location at any time. This is done in several ways:

- By enabling people to respond via multiple modes (Internet, paper, or telephone if they call the Census Questionnaire Assistance Center).
- By allowing respondents to submit a questionnaire without a unique identification code.
- By providing online forms in multiple languages.

For these innovations to be successful, respondents must know that their personal information is protected. Thus, a key element of this innovation area is to assure respondents that their data are secure and treated as confidential.



Improve the quality of the address list.	Update the address list.	Validate incoming data from tribal, federal, state, and local governments.
Increase effectiveness of advertising and contact strategies.	Support the micro-targeted advertising campaign.	
Validate respondent submissions.	Validate respondent addresses and prevent fraudulent submissions.	
Reduce field workload for follow-up activities.	Remove vacant and nonresponding occupied housing units from the NRFU workload.	Optimize the number of contact attempts. Tailor work assignments with best time of day to contact.

**Figure 8: Summary of Utilizing Administrative Records and Third-Party Data**

**Information Already Provided to the Government or Third Parties Can Be Leveraged To Increase the Efficiency and Effectiveness of the Data Collection Operations.**

The goal of the Utilizing Administrative Records and Third-Party Data innovation area is to use information people have already provided to improve the efficiency and effectiveness of the 2020 Census, and in particular reduce expensive in-person follow-up activities. Administrative record data refers to information from federal and state governments. Third-party data refers to information from commercial sources. As shown in Figure 8, data from both sources can help improve the quality of the address list (frame), increase the effectiveness of advertising and contact strategies, validate respondent submissions, and reduce field workload for follow-up activities.

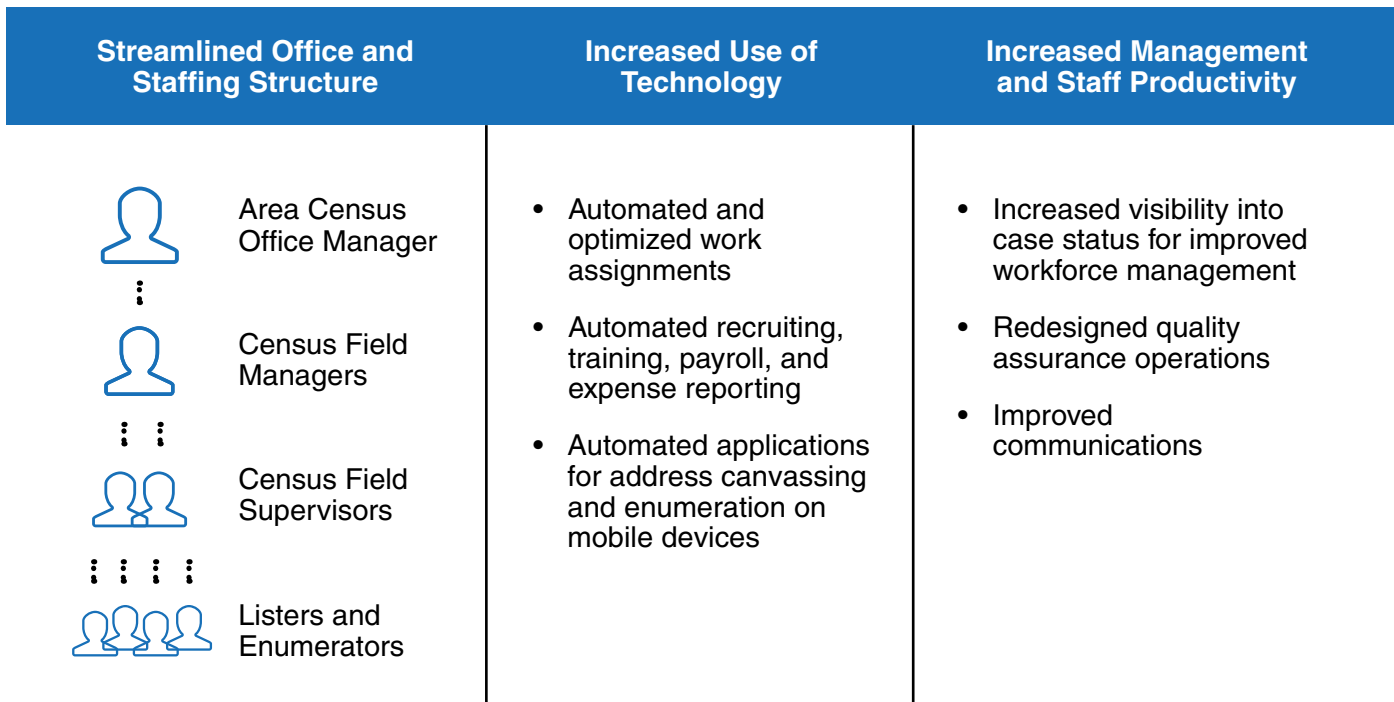
As has been done in prior decades, administrative data from the United States Postal Service and other government records are used to update the address frame and reflect changes to the housing stock that occur over time. Additional administrative records sources, as well as third-party data from commercial companies, will also be used for this purpose. In addition, these data sources will be used to validate incoming data from tribal, federal, state, and local governments.

To increase the effectiveness of advertising and contact strategies, the Census Bureau will use demographic and geographic information from various administrative record and third-party data sources to help target the advertising to specific populations.

Administrative records and third-party data will also be used to validate respondent addresses for all Internet responses. This will help prevent fraudulent and erroneous submissions.

Finally, a primary use of administrative records and third-party data is to reduce field workload for follow-up activities. To this end, the Census Bureau will use data from internal and external sources, such as the 2010 Census, the United States Postal Service, the Internal Revenue Service, and the Centers for Medicare and Medicaid Services to identify vacant and nonresponding occupied housing units and remove them from the Nonresponse Followup workload after additional attempts to contact by mail or in-person attempts to determine the status. Data from these sources and the American Community Survey will also be used to tailor work assignments related to best time of day to contact household.

The Census Bureau plans to continue acquiring and testing data from other sources, including the National Directory of New Hires, the Supplemental Nutrition and Assistance Program, and state-administered programs, such as Temporary Assistance for Needy Families, to



**Figure 9: Summary of Reengineering Field Operations**

better understand how these data sources can help reduce follow-up field workload.

**Technology and Automated Operational Control and Administrative Systems Reduce the Staffing, Infrastructure, and Brick and Mortar Footprint Required for 2020 Census Field Operations.**

The goal of the Reengineering Field Operations innovation area is to use technology to manage the 2020 Census fieldwork efficiently and effectively. Figure 9 shows the three main components of the reengineered field operations: streamlined office and staffing structure, increased use of technology, and increased management and staff productivity.

The 2020 Census field operations will rely heavily on automation. For example, the Census Bureau plans to provide most listers and enumerators with the capability to work completely remotely and perform all administrative and data collection tasks directly from a mobile device. Supervisors will also be able to work remotely and communicate with their staff via these devices. These enhanced capabilities significantly reduce the number of offices required to support 2020 Census fieldwork. In the 2010 Census, the Census Bureau established

12 Regional Census Centers and nearly 500 Local Census Offices. The agency hired more than 516,000 enumerators to conduct Nonresponse Followup activities. The new design for the 2020 Census field operations includes six Regional Census Centers with 248 Area Census Offices.

Automation enables significant changes to how cases are assigned and to the supervision of field staff. By making it easier for supervisors to monitor and manage their workers, the ratio of workers to supervisor can be increased, reducing the number of supervisors required. This streamlines the staffing structure. Other design changes include optimized case assignment and routing.

All administrative functions associated with most field staff will be automated, including recruiting, hiring, training, time and attendance, and payroll. The new capabilities also allow quality to be infused into the process through alerts to supervisors when there is an anomaly in an enumerator’s performance (e.g., the Global Positioning Satellite indicator on an enumerator’s mobile device indicates that she or he is not at the assigned location) and real-time edits on data collection. Accordingly, the quality assurance process used in the 2010 Census is being reengineered to account for changes in technology.

## The 2020 Census Comprises 35 Operations That Together Represent the Work To Be Done To Prepare for and Conduct a High-Quality Census.

The 2020 Census includes 35 operations that are organized into eight major areas, which correspond with

the Census Bureau standard work breakdown structure. The term “operation” refers to both support and business functions. For example, Program Management is considered a support function, and Address Canvassing is considered a business function. Table 1 provides a high-level purpose statement for each operation.

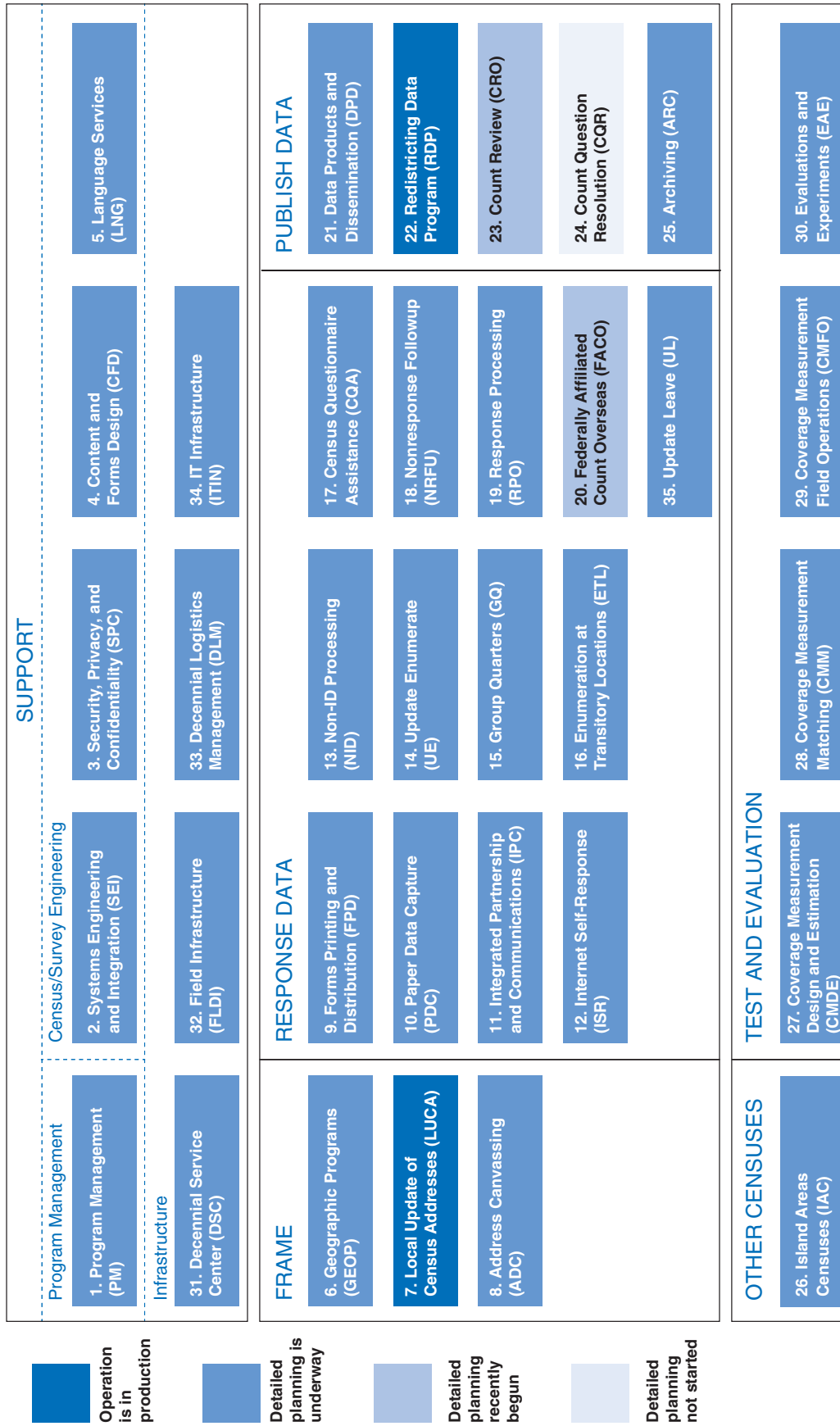
**Table 1: Operations and Purpose**

Operations	Purpose
Program Management	
Program Management (PM)	Define and implement program management policies, processes, and the control functions for planning and implementing the 2020 Census in order to ensure an efficient and well-managed program.
Census/Survey Engineering	
Systems Engineering and Integration (SEI)	Manage the delivery of a System of Systems that meets the 2020 Census Program business and capability requirements.
Security, Privacy, and Confidentiality (SPC)	Ensure that all operations and systems used in the 2020 Census adhere to laws, policies, and regulations that ensure appropriate systems and data security, and protect respondent and employee privacy and confidentiality.
Content and Forms Design (CFD)	Identify and finalize content and design of questionnaires and other associated nonquestionnaire materials, ensure consistency across data collection modes and operations, and provide the optimal design and content of the questionnaires to encourage high response rates.
Language Services (LNG)	Assess and support language needs of non-English speaking populations, determine the number of non-English languages and level of support for the 2020 Census, optimize the non-English content of questionnaires and associated nonquestionnaire materials across data collection modes and operations, and ensure cultural relevancy and meaningful translation of 2020 Census questionnaires and associated nonquestionnaire materials.
Frame	
Geographic Programs (GEOP)	Provide the geographic foundation in support of the 2020 Census data collection and tabulation activities, within the Master Address File (MAF)/Topologically Integrated Geographic Encoding and Referencing (TIGER) System. The MAF/TIGER System (software applications and databases) serves as the national repository for all of the spatial, geographic, and residential address data needed for census and survey data collection, data tabulation, data dissemination, geocoding services, and map production. Components of this operation include Geographic Delineations, Geographic Partnership Programs and Geographic Data Processing.
Local Update of Census Addresses (LUCA)	Provide an opportunity for tribal, federal, state, and local governments to review and improve the address lists and maps used to conduct the 2020 Census as required by Public Law (P.L.) 103-430.
Address Canvassing (ADC)	Deliver a complete and accurate address list and spatial database for enumeration and determining the type and address characteristics for each living quarter.
Response Data	
Forms Printing and Distribution (FPD)	Print and distribute Internet invitation letters, reminder cards or letters or both, questionnaire mailing packages, and materials for other special operations, as required. Other materials required to support field operations are handled in the Decennial Logistics Management.
Paper Data Capture (PDC)	Capture and convert data from the 2020 Census paper questionnaires, including mail receipt, document preparation, scanning, Optical Character Recognition, Optical Mark Recognition, Key From Image, data delivery, checkout, and form destruction.
Integrated Partnership and Communications (IPC)	Communicate the importance of participating in the 2020 Census to the entire population of the 50 states, the District of Columbia, and Puerto Rico to support field recruitment efforts, engage and motivate people to self-respond (preferably via the Internet), raise and keep awareness high throughout the entire 2020 Census to encourage response, and effectively support dissemination of Census data to stakeholders and the public.
Internet Self-Response (ISR)	Maximize online response to the 2020 Census via contact strategies and improved access for respondents and collect response data via the Internet to reduce paper and Nonresponse Followup.

Operations	Purpose
Non-ID Processing (NID)	Make it easy for people to respond anytime, anywhere to increase self-response rates by providing response options that do not require a unique Census ID, maximizing real-time matching of non-ID respondent addresses to the census living quarters address inventory, assigning nonmatching addresses to census blocks.
Update Enumerate (UE)	Update the address and feature data and enumerate respondents in person. UE is designated to occur in areas where the initial visit requires enumerating while updating the address frame, in particular in remote geographic areas that have unique challenges associated with accessibility.
Update Leave (UL)	Update the address and feature data and leave a choice questionnaire package at every housing unit identified to allow the household to self-respond. UL is designed to occur in areas where the majority of housing units do not have a city-style address to receive mail.
Group Quarters (GQ)	Enumerate people living or staying in group quarters and provide an opportunity for people experiencing homelessness and receiving service at service-based locations, such as soup kitchens, to be counted in the census.
Enumeration at Transitory Locations (ETL)	Enumerate individuals in occupied units at transitory locations who do not have a usual home elsewhere, such as recreational vehicle parks, campgrounds, racetracks, circuses, carnivals, marinas, hotels, and motels.
Census Questionnaire Assistance (CQA)	Provide questionnaire assistance for respondents by answering questions about specific items on the census form or other frequently asked questions about the 2020 Census and provide an option for respondents to complete a census interview over the telephone. Also provide outbound calling support of NRFU Reinterview and Coverage Improvement.
Nonresponse Followup (NRFU)	Determine housing unit status for nonresponding addresses that do not self-respond to the 2020 Census and enumerate households that are determined to have a housing unit status of occupied.
Response Processing (RPO)	Create and distribute the initial 2020 Census enumeration universe, assign the specific enumeration strategy for each living quarter based on case status and associated paradata, create and distribute workload files required for enumeration operations, track case enumeration status, run postdata collection processing actions in preparation for producing the final 2020 Census results, and check for fraudulent returns.
Federally Affiliated Count Overseas (FACO)	Obtain counts by home state of U.S. military and federal civilian employees stationed or deployed overseas and their dependents living with them.
Publish Data	
Data Products and Dissemination (DPD)	Prepare and deliver the 2020 Census population counts to the President of the United States for Congressional apportionment, tabulate and disseminate 2020 Census data products for use by the states for redistricting, and tabulate and disseminate 2020 Census data for use by the public.
Redistricting Data (RDP)	Provide to each state the legally required P.L. 94-171 redistricting data tabulations by the mandated deadline of 1 year from Census Day: April 1, 2021.
Count Review (CRO)	Enhance the accuracy of the 2020 Census through remediating potential gaps in coverage by implementing an efficient and equitable process to identify and correct missing or geographically misallocated large group quarters and their population and positioning remaining count issues for a smooth transition to the Count Question Resolution Operation.
Count Question Resolution (CQR)	Provide a mechanism for governmental units to challenge their official 2020 Census results.
Archiving (ARC)	Coordinate storage of the materials and data and provide 2020 Census records deemed permanent, including files containing individual responses, to the National Archives and Records Administration and to the National Processing Center to use as source materials to conduct the Age Search Service. Also store data to cover in-house needs.
Other Censuses	
Island Areas Censuses (IAC)	Enumerate all residents of American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the U.S. Virgin Islands; process and tabulate the collected data; and disseminate data products to the public.
Test and Evaluation	
Coverage Measurement Design and Estimation (CMDE)	Develop the survey design and sample for the Post-Enumeration Survey of the 2020 Census and produce estimates of census coverage based on the Post-Enumeration Survey.

Operations	Purpose
Coverage Measurement Matching (CMM)	Identify matches, nonmatches, and discrepancies between the 2020 Census and the Post-Enumeration Survey for both housing units and people in the same areas. Both computer and clerical components of matching are conducted.
Coverage Measurement Field Operations (CMFO)	Collect person and housing unit information (independent from the 2020 Census operations) for the sample of housing units in the Post-Enumeration Survey to help understand census coverage and to detect erroneous enumerations.
Evaluations and Experiments (EAE)	Document how well the 2020 Census was conducted, and analyze, interpret, and synthesize the effectiveness of census components and their impact on data quality or coverage or both. Measure the success of critical 2020 Census operations. Formulate and execute an experimentation program to support early planning and inform the transition and design of the 2030 Census and produce an independent assessment of population and housing unit coverage.
<b>Infrastructure</b>	
Decennial Service Center (DSC)	Support 2020 Census Field operations for decennial staff (i.e., Headquarters, PDC, Regional Census Centers, Area Census Offices, Island Areas Censuses, remote workers, and listers/ enumerators).
Field Infrastructure (FLDI)	Provide the administrative infrastructure for data collection operations covering the 50 states, the District of Columbia, and Puerto Rico.
Decennial Logistics Management (DLM)	Coordinate space acquisition and lease management for the regional census centers, area census offices, and the Puerto Rico area office; and provide logistics management support services (e.g., kit assembly, supplies to field staff).
IT Infrastructure (ITIN)	Provide the IT-related Infrastructure support to the 2020 Census, including enterprise systems and applications, 2020 Census-specific applications, Field IT infrastructure, mobile computing, and cloud computing.

Figure 10 presents a graphic representation of the 35 operations organized into the eight areas described above. Program Management, Census/Survey Engineering, and Infrastructure are combined into one general group called Support, which is shown at the top of the diagram. As noted by the shading on the diagram, the degree to which detailed planning has been conducted for each operation varies. The maturity of the operational design for the 35 operations also varies based on the amount of planning conducted to date. Two operations are now in production. These are Local Update of Census Addresses and Redistricting Data Program.



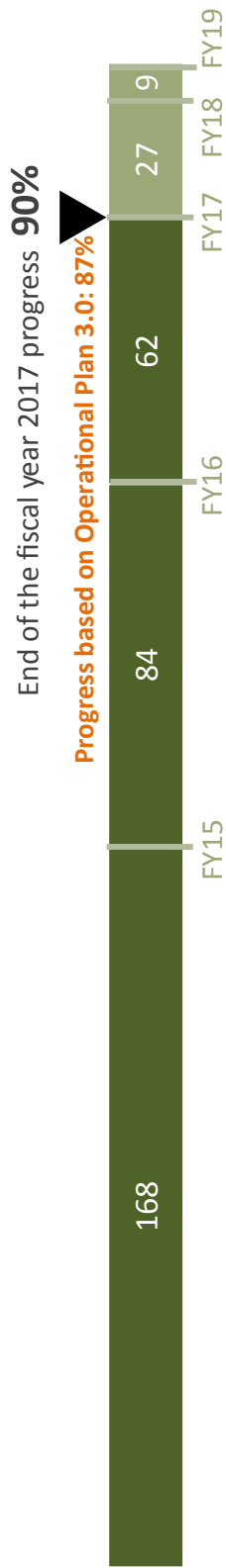
**Figure 10: Operational Overview and Status**

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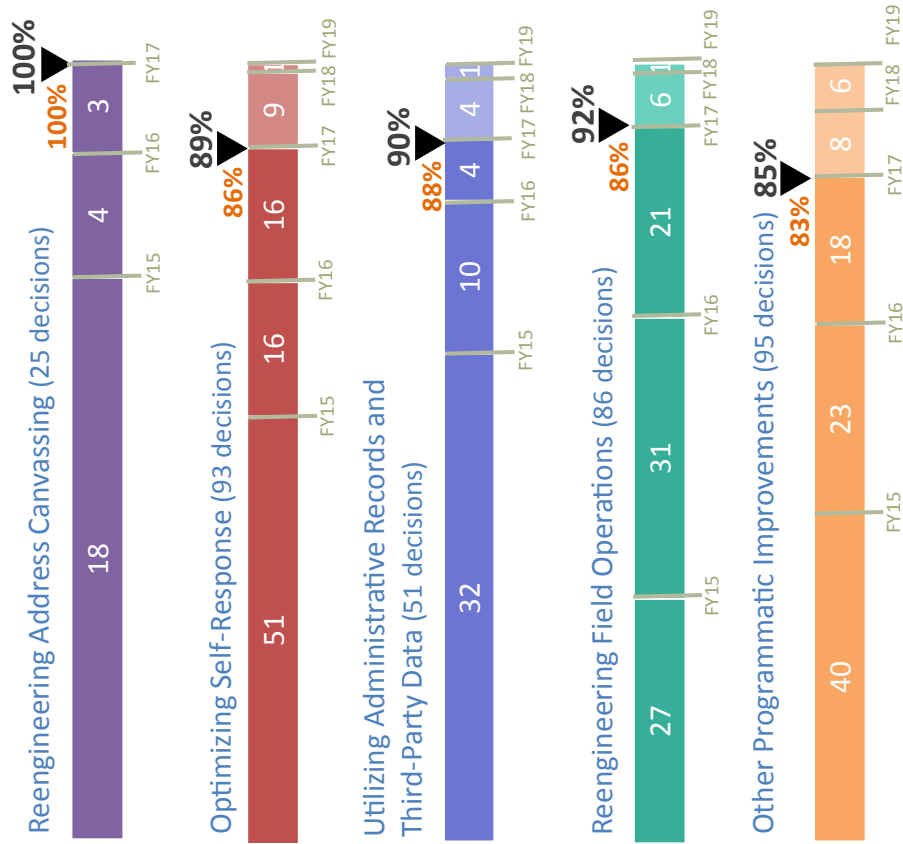
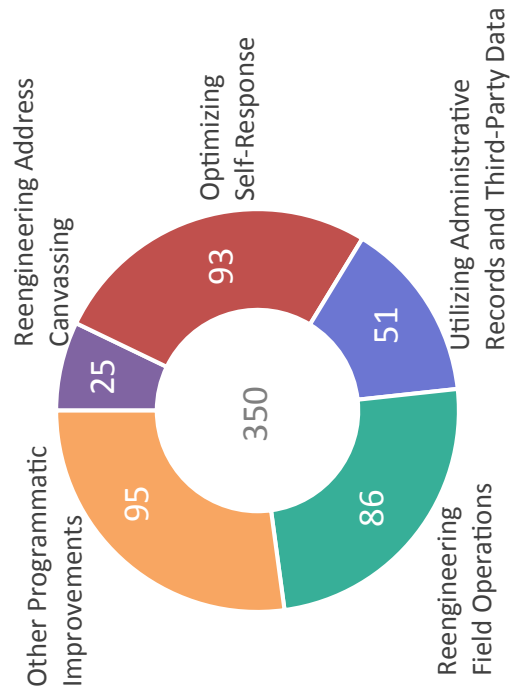
## 2020 Census Operational Design Decisions

The operational design comprises a set of design decisions that drive how the 2020 Census will be conducted. These design decisions are informed through research, testing, and analysis of the cost and quality impacts of different design options. Figure 11 highlights the progress as of September 30, 2017, on

making decisions on important aspects of the operational design for the four key innovation areas. The totals reported here are slightly different from the progress reported in the 2020 Census Operational Plan Version 3.0. Of particular note, out of 350 total decisions, 36 decisions remain to be made and 83 decisions were made ahead of schedule.



### Decisions by Innovation Area



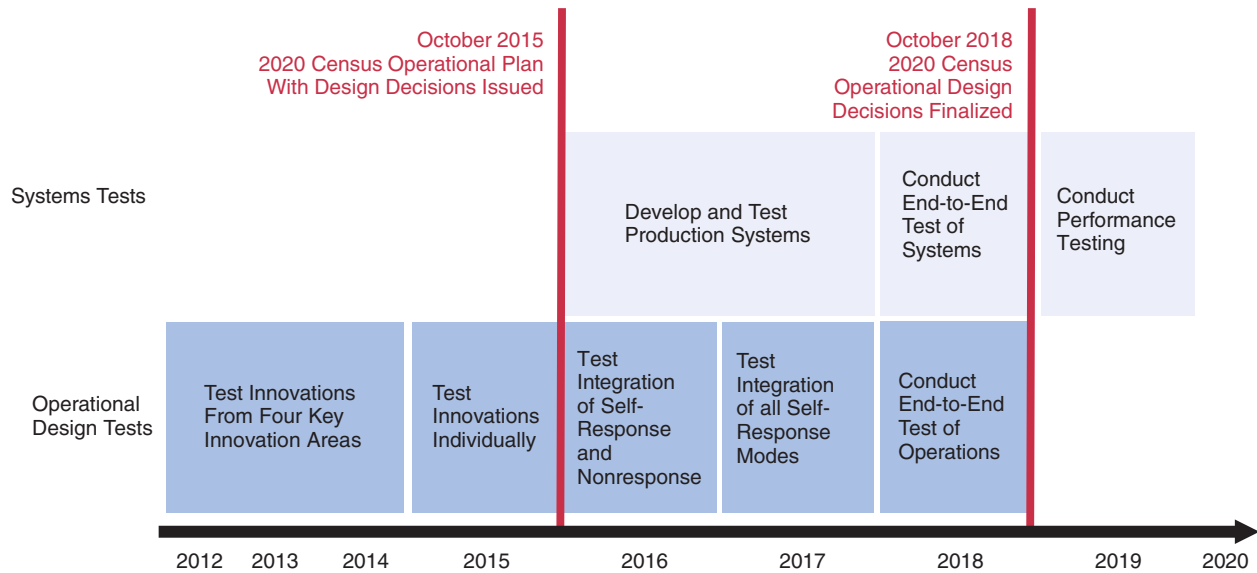
**Figure 11: 2020 Census Operational Plan: 350 Decisions**



As shown in Figure 12, the tests conducted early in the decade (2012–2015) were aimed at answering specific research questions (objectives) needed to make decisions on important aspects of the operational design for the four key innovation areas. Starting in 2016, the focus shifted to validating and refining the design by testing the interactions across operations and determining the proposed methodology for the operations. Testing of production systems began in 2017 and

continues through 2018, with final performance testing to ensure scalability occurring in 2019. The 2018 End-to-End Census Test will test the integration of all major operations and systems.

Table 3 provides a brief description of the operational tests executed between 2012 and 2017. Table 4 provides a brief description of the tests planned for 2018 through 2019.



**Figure 12: High Level View of Tests**

**Table 3: Operational Tests Conducted From 2012 Through 2015**

Calendar Year	Test	Description
2012	Public-Opinion Polling	A public-opinion survey of attitudes toward statistics produced by the federal government (focuses on statistical uses of administrative records and third-party data). Uses the Nightly Gallup Polling. 850 nationally representative housing units telephoned per week. Started in February 2012 and continues as needed.
	2012 National Census Test	A study of overall self-response rates and Internet self-response rates. Conducted from August 2012 to October 2012. Included 80,000 nationally representative housing units.
2013	2013 National Census Contact Test	A study of the quality of the Contact Frame (a list of supplemental contact information, such as e-mail address and phone numbers, built from third-party data sources) and automated processing of census responses lacking a preassigned census identification number. Included 39,999 nationally representative addresses.
	2013 Census Test	An operational study of Nonresponse Followup procedures. Conducted in late 2013 and involved 2,077 housing units in Philadelphia, PA.
2014	2014 Census Test	An operational study of Self-Response and Nonresponse Followup procedures. Census Day of July 1, 2014. Included 192,500 housing units in portions of Montgomery County, MD, and Washington, DC.
	Continuous small-scale testing (ongoing as needed throughout the decade)	A study of respondent and nonrespondent reactions to new modes of contact and response (focus on privacy and confidentiality). Started in January 2014; ongoing as needed. Includes e-mails to 1,000–2,200 housing units sampled from an opt-in frame.
	Local Update of Census Addresses (LUCA) Focus Groups	A collection of input on potential LUCA models from eligible LUCA participants representing various sizes and types of governments across the nation. 46 governmental entities participated. Conducted from March 2014 through June 2014.
	2014 Human-in-the-Loop Test	A simulation of the reengineered field operations using an Operational Control Center and an enhanced operational control system. Occurred in November 2014. 87 field and office staff participated.

**Table 3: Operational Tests Conducted From 2012 Through 2015—Con.**

Calendar Year	Test	Description
2015	Address Validation Test (started in late 2014)	<p>An evaluation of methods for reengineered Address Canvassing.</p> <p>Conducted from September 2014 to December 2014 and included 10,100 nationally representative blocks (~ 1.04 million addresses).</p> <p>Evaluated feasibility of canvassing portions of blocks, rather than entire blocks using both In-Office and In-Field methods.</p> <p>Conducted from December 2014 to February 2015.</p> <p>615 blocks with national distribution were listed by 35 professional staff.</p>
	2015 Optimizing Self-Response Test	<p>An operational study of Self-Response procedures.</p> <p>Census Day of April 1, 2015.</p> <p>Included 407,000 housing units in the Savannah, GA, media market, with 120,000 sampled self-responding housing units.</p>
	2015 Census Test	<p>An operational study of Nonresponse Followup procedures.</p> <p>Census Day of April 1, 2015.</p> <p>Included 165,000 sampled housing units in Maricopa County, AZ.</p>
	2015 National Content Test	<p>An evaluation and comparison of different census questionnaire content.</p> <p>Census Day of September 1, 2015.</p> <p>Included 1.2 million nationally representative households, including 20,000 households in Puerto Rico and 100,000 reinterviews.</p>
2016	2016 Census Test	<p>Integration of Self-Response and Nonresponse Followup Operation.</p> <p>Census Day of April 1, 2016.</p> <p>Includes approximately 225,000 housing units per site in Los Angeles County, CA, and Harris County, TX.</p>
	Address Canvassing Test	<p>Implement In-Office Address Canvassing.</p> <p>Measure effectiveness of In-Office through In-Field Address Canvassing Operations.</p> <p>Evaluate effectiveness of online training for Field Supervisors and Field Representatives.</p> <p>Integrate multiple Information Technology applications.</p> <p>Included 116,000 housing units in Buncombe County, NC, and 107,000 housing units in St. Louis County, MO.</p>
	Group Quarters Tests	<p>Group Quarters Electronic Capability Test Survey.</p> <ul style="list-style-type: none"> <li>▪ 260 group quarters umbrella organizations contacted about potential to provide electronic responses.</li> </ul> <p>eResponse Data Transfer Test.</p> <ul style="list-style-type: none"> <li>▪ Exploration of abilities of group quarters administrators to transmit eResponse records and link residents to correct facility.</li> </ul> <p>Service-Based Enumeration.</p> <ul style="list-style-type: none"> <li>▪ Exploration of feasibility of enumerating the service-based population using electronic means.</li> </ul>
2017	2017 Census Test	<p>Test the integration of operations and systems for self-response.</p> <p>Test the feasibility of collecting tribal enrollment information.</p> <p>Census Day of April 1, 2017.</p> <p>Included 80,000 housing units across the United States, with an oversample of areas with relatively high populations of American Indians and Alaska Natives.</p>

**Table 4: Planned Tests**

Calendar Year	Test	Description
2018	2018 End-to-End Census Test	<p>Create census frame with Address Canvassing results.</p> <ul style="list-style-type: none"><li>▪ Address Canvassing completed in August–October 2017) in Pierce County, WA; Providence County, RI; and Bluefield-Beckley-Oak Hill, WV.</li></ul> <p>Test and validate 2020 Census operations, procedures, systems, and infrastructure together.</p> <ul style="list-style-type: none"><li>▪ Census Day April 1, 2018.</li><li>▪ Enumeration operations March–August 2018 in Providence County, RI.</li></ul> <p>Produce a prototype of geographic and data products.</p> <ul style="list-style-type: none"><li>▪ Publish Prototype Public Law 94-171 Data and Support Products by April 1, 2019.</li></ul>
2019	Post End-to-End Testing	<p>Final performance testing to ensure scalability.</p> <ul style="list-style-type: none"><li>▪ Defect Resolution Testing (August 2018–May 2019).</li><li>▪ Post End-to-End Performance Testing (June–December 2019).</li></ul>

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## **An Integrated Design Is Required To Ensure the 35 Operations Work Together To Achieve a Successful 2020 Census.**

Although each operation is presented separately, the operations must work together to achieve a successful 2020 Census. Information flows among the operations as the census proceeds from frame development through collection of response data to the publishing and release of the data.

The integration of these business operations requires integration of the IT systems that support them. This significant effort is underway.

## **KEY MILESTONES AND RISKS**

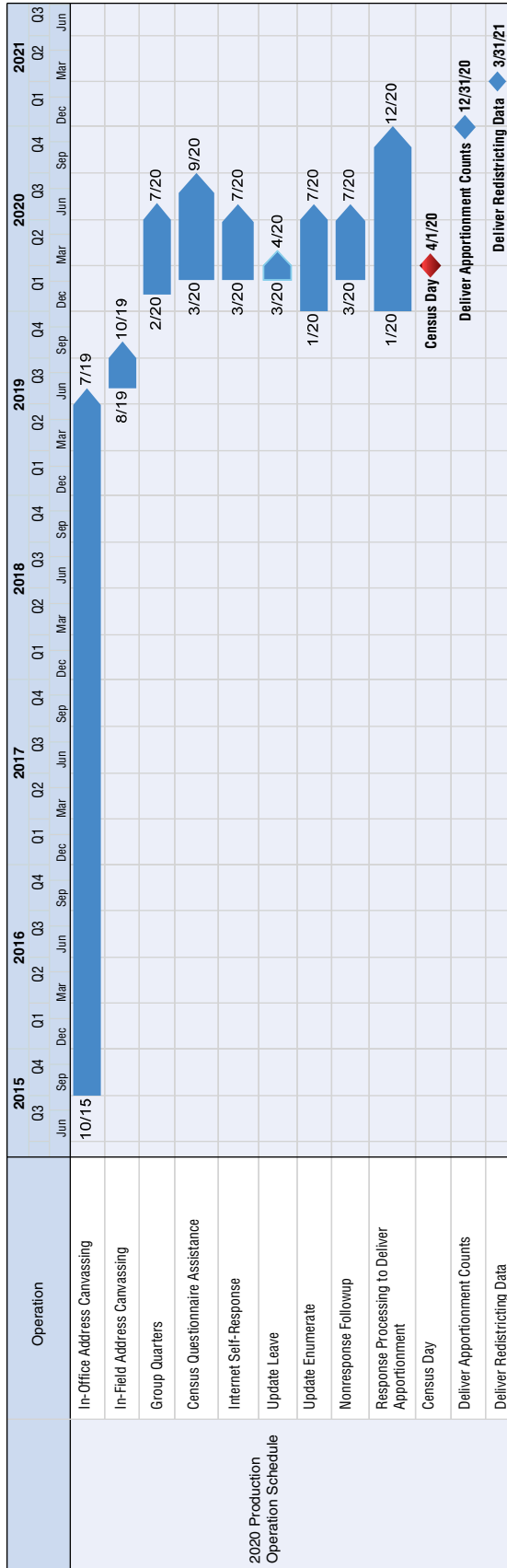
### **The 2020 Census Has Multiple Decision Points, Milestones, and Production Dates That Must Be Met To Deliver the Final Apportionment and Redistricting Data.**

Figure 13 depicts the key decision points, milestones, and production dates.

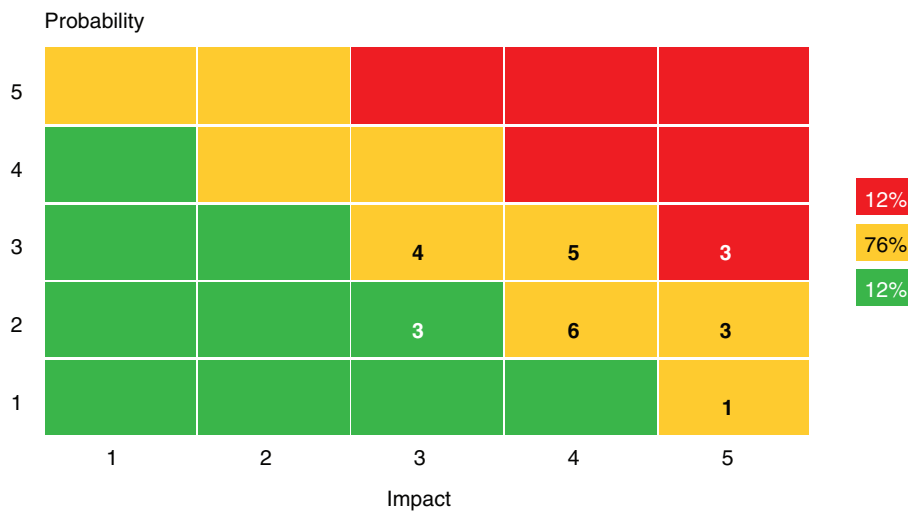
Test results and planning assumptions also informed the timing of the major production field operations for the 2020 Census as shown in Figure 13.

Decision	2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021		2022		2023		
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Begin 2020 Census	11/11	◆	Begin 2020 Census																								
Launch 2020 Census Website							1/15	◆	Launch 2020 Census Website																		
2020 Census Operational Plan									10/15	◆	2020 Census Operational Plan																
Award Census Questionnaire Assistance Contract									7/16	◆	Award Census Questionnaire Assistance Contract																
Award Communications Contract									8/16	◆	Award Communications Contract																
Census Topics to Congress											4/17	◆	Census Topics to Congress														
Deliver Final Residence Rules													12/17	◆	Deliver Final Residence Rules												
Open Regional Census Centers													4/18	◆	Open Regional Census Centers												
Census Questions to Congress													4/18	◆	Census Questions to Congress												
Open Field Offices													1/19	◆	Open Field Offices												
Group Quarter Operations Begin															2/20	◆	Group Quarter Operations Begin										
2020 Census Day															4/20	◆	2020 Census Day										
NRFU Complete															8/20	◆	NRFU Complete										
Count Review Complete															11/20	◆	Count Review Complete										
Deliver Counts to the President																	Deliver Counts to the President										
Deliver Redistricting Counts to States																	Deliver Redistricting Counts to States										
Complete LUCA																	Complete LUCA										
Release Final 2020 Data Products																	Release Final 2020 Data Product										
Complete 2020 Census																	Complete 2020 Census										

Figure 13: Key Decision Points and Milestones



**Figure 14: 2020 Census Operations—Production Timeline**



**Figure 15: 2020 Census Program-Level Risk Matrix**

### KEY PROGRAM-LEVEL RISKS

The 2020 Census Risk Management process consists of activities performed to reduce the probability and consequences of events that could negatively affect the 2020 Census Program’s ability to meet its objectives. The goal of the risk management process is to ensure a common, systematic, and repeatable assessment approach at both the program and project levels so that risks can be effectively identified and managed, and clearly communicated to management, stakeholders, and executive-level decision-makers. Risk management is iterative and designed to be performed continuously throughout the 2020 Census Program life cycle. Therefore, the 2020 Census Program Risk Register is revisited regularly and changes are made on an ongoing basis, including the addition of new risks.

Figure 15 shows the current risk matrix for all risks in the 2020 Census Program Risk Register, as of August 4, 2017.

From the 2020 Census Program Risk Register, 12 key risks are highlighted in the sections below. These risks were selected from the risk register because members of the 2020 Census Risk Review Board agreed these 12 key risks represent the major concerns that could affect the design or the successful implementation of the 2020 Census. Along with the risk statement, the probability rating, the impact rating, the risk exposure level, and the risk color are provided for each risk. Mitigation strategies are also provided. For information about all the program-level risks, the full program risk register is available upon request.

### Administrative Records and Third-Party Data—External Factors

The Census Bureau is planning to use administrative records and third-party data to reduce the need to follow up 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), the enumeration of nonresponding housing units, and the improvement of the quality of imputation for demographic characteristics that are missing for person and housing unit records. Administrative records will also be used to update the Master Address File, predict the best times to contact nonresponding households, and verify the information provided by respondents and enumerators.

**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 or to fully utilize the data quality benefits of using administrative records in characteristic imputation.

Probability 3 (Moderately likely)	Impact 5 (Major impact)	Exposure level <b>HIGH</b>
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Mitigation Strategies include the following:

- 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.

### Public Perception of Ability To Safeguard Response Data

The accuracy and usefulness of the data collected for the 2020 Census are 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. The public's perception of the Census Bureau's ability to safeguard their response data may be affected by security breaches or the mishandling of data at other government agencies or in the private sector.

**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 follow-up and cost increases.

Probability 3 (Moderately likely)	Impact 5 (Major impact)	Exposure level <b>HIGH</b>
--------------------------------------	----------------------------	-------------------------------

Mitigation Strategies include the following:

- 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, other countries, 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 gauge their probable acceptance of the Census Bureau's methods for enumeration.

### Cybersecurity Incidents

Cybersecurity incidents (e.g., breach, denial of service attack) could happen to the Census Bureau's authorized IT systems, such as the Internet self-response

instrument, mobile devices used for fieldwork, and data processing and storage systems. IT security controls will be put in place to protect the confidentiality, integrity, and availability of the IT systems and data.

**IF** a cybersecurity incident occurs to the systems supporting the 2020 Census, **THEN** additional technological efforts will be required to repair or replace the systems affected in order to maintain secure services and data.

Probability 3 (Moderately likely)	Impact 5 (Major impact)	Exposure level <b>HIGH</b>
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Mitigation Strategies include the following:

- 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, other countries, and the private sector to understand how they effectively mitigate cybersecurity incidents.
- Audit systems and check logs to help in detecting and tracing an outside infiltration.
- Perform threat and vulnerability analysis through testing.
- Prepare for rapid response to address any detected cybersecurity incidents.

### Enterprise IT Solutions

The Census Bureau, wherever feasible, will leverage cross-program IT solutions and has begun the work necessary to ensure this is achieved. However, enterprise solutions may not address all of the 2020 Census Program requirements. In these cases, impacts must be identified and proper actions taken to resolve the situation.

**IF** enterprise IT solutions cannot meet the 2020 Census Program requirements, **THEN** existing systems may require substantial modifications or entirely new systems may have to be developed, adding complexity and increasing risk for a timely and successful 2020 Census.

Probability 3 (Moderately likely)	Impact 4 (Substantial impact)	Exposure level <b>MEDIUM</b>
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Mitigation Strategies include the following:

- Engage with enterprise efforts to ensure that solutions architectures align and provide continued support for 2020 Census requirements development and management.

- Participate in agency-wide solution development (i.e., avoid custom solutions where enterprise or off-the-shelf solutions will suffice) and ensure that contingencies (i.e., off-ramps) are developed early and exercised when necessary.
- Determine the extent existing systems from the 2010 Census can be modified and reused if necessary.
- Design IT solutions that are flexible enough to incorporate design changes.
- 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.

### Operations and Systems Integration

Due to the critical timing of census operations and the potential impact of systems not being ready to support them, the 2020 Census Program must have an accurate gauge of the progress made towards integrating the various operations and systems that support the program, including enterprise solutions. The monitoring of the progress towards integration must take place throughout the planning, development, and testing stages of the operations and systems.

**IF** the 2020 Census Program does not monitor the various operations and systems to ensure that integration is successful prior to implementation, **THEN** the strategic goals and objectives of the program may not be met.

Probability 3 (Moderately likely)	Impact 4 (Substantial impact)	Exposure level <b>MEDIUM</b>
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Mitigation Strategies include the following:

- Leverage DITD’s Systems Engineering and Integration (SEI) System Development Life Cycle system readiness/phase gate review process, the SEI program metrics dashboard, and various 2020 Census Program’s governance forums to provide a current sense of where all solutions providers are in the system development process and to raise issues quickly for corrective action.
- Conduct regularly scheduled operational reviews at the 2020 Census Program governing boards.
- Ensure all operational areas and their associated Integrated Project Teams have adequate resources assigned to integration efforts and required project artifacts are developed and approved.

- Ensure each planned census test has an approved Goals, Objectives, and Success Criteria document, adequate resources to plan and conduct are identified and assigned, a detailed test plan is developed and approved (including key milestones and roles and responsibilities), and deadlines are being met through a regular management review with the test team.
- Ensure adequate technical review sessions are planned and conducted in conjunction with SEI staff including the systems engineers responsible for developing the solutions).
- Create an operational integration design team to support the 2020 Census through creation and distribution of artifacts which depict integration between the operations.

### Late Operational Design Changes

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

**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.

Probability 3 (Moderately likely)	Impact 4 (Substantial impact)	Exposure level <b>MEDIUM</b>
--------------------------------------	----------------------------------	---------------------------------

Mitigation Strategies include the following:

- Identify internal and external stakeholders that have an interest in the 2020 Census operational design.
- Develop a stakeholder communications plan for identified internal and external stakeholders.
- Regularly communicate to and seek feedback from identified internal and external stakeholders on design decisions and research and testing results.
- 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 address potential changes and make decisions based on the results of the change-control process.

## Insufficient Levels of Staff With Subject-Matter Skill Sets

The 2020 Census Program consists of a portfolio of projects that requires subject-matter skill sets to complete the work. The potential of not having the necessary staffing levels and staff with the appropriate competencies to satisfy program objectives is a current reality. This is a result of both the hiring freezes and budgetary constraints experienced by the 2020 Census Program. In addition, with increasing numbers of staff eligible for retirement before 2020, there is also the potential of losing valuable institutional knowledge, as employees in key positions may not be accessible to share their knowledge and participate in succession planning.

**IF** the 2020 Census Program does not hire and retain staff with the necessary subject-matter skill sets at the levels required by the projects, **THEN** the 2020 Census Program will face staffing shortages, making it difficult to meet the goals and objectives of the program.

Probability 3 (Moderately likely)	Impact 4 (Substantial impact)	Exposure level <b>MEDIUM</b>
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Mitigation Strategies include the following:

- Identify high priority competencies and staffing positions needed for the work of the 2020 Census.
- Decennial Directorate Support Services Office will continue to collaborate with managers and the Human Resources Division to facilitate hiring.
- Employ various strategies to facilitate staff retention.

## Funding Requests not Realized

To execute a 2020 Census that counts everyone once and only once, and in the right place, the Census Bureau requires appropriate funding during the entire life cycle of the program. Funding for the 2020 Census Program is required at the beginning of each fiscal year and when funding commitments are realized.

**IF** the funding appropriated during each fiscal year of the 2020 Census life cycle is less than requested, **THEN** the Census Bureau may not be able to fully meet the challenge of containing the overall cost of the 2020 Census or to fully utilize the data quality benefits of using administrative records in characteristic imputation.

Probability 2 (Not likely)	Impact 5 (Major impact)	Exposure level <b>MEDIUM</b>
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Mitigation Strategies include the following:

- Formulate and submit robust cost estimates (including contingencies for known and unknown risks) for planned 2020 Census activities throughout the 2020 Census Program life cycle.
- Develop strong budget justifications that demonstrate the negative impact of insufficient funds in each fiscal year of the 2020 Census Program life cycle.
- Prioritize research, testing, and implementation activities for each fiscal year of the 2020 Census Program life cycle to focus on those areas that can significantly impact cost and quality, and develop contingency plans to quickly respond to budget cuts.
- Conduct quantitative analysis of the cost estimates using 2020 Census risk information.

## Administrative Records and Third-Party Data—Access and Constraints

The Census Bureau is planning to use administrative records and third-party data to reduce the need to follow up 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 occupied housing units and the improvement of the quality of imputation for demographic characteristics that are missing for person and housing unit records. Administrative records will also be used to update the MAF, predict the best times to contact nonresponding households, and verify the information provided by respondents and enumerators. The use of administrative records data requires special handling and security protocols that affect the development of the systems and infrastructure supporting the 2020 Census.

**IF** the Census Bureau does not have timely and continual access to administrative records and third-party data, or the data providers place constraints on the use of the data that conflict with planned 2020 Census operations, **THEN** the Census Bureau may not be able to fully meet the challenge of containing the overall cost of the 2020 Census or to fully utilize the data quality benefits of using administrative records in characteristic imputation.

Probability 2 (Not likely)	Impact 5 (Major impact)	Exposure level <b>MEDIUM</b>
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Mitigation Strategies include the following:

- Identify all required administrative records and third-party data sets needed for the 2020 Census Program, including data providers and points-of-contact.
- Review data sharing agreements/contracts in order to understand all the conditions assigned to the administrative records and third-party data sets and to ensure conditions are appropriate.
- Ensure requirements for administrative records and third-party data usage are developed and documented.
- Inform data providers that data agreements/contracts need to be updated.
- Disseminate updated data agreements/contracts to internal stakeholders.
- Negotiate with the source providers to ensure required administrative records and third-party data are available when needed.
- Ensure the build-out for all systems supporting the 2020 Census takes into account the handling of administrative records and third-party data.
- Ensure the security requirements, including physical security, for all systems supporting the 2020 Census cover the handling of administrative records and third-party data.
- Ensure staff has been trained in the proper handling of administrative records and third-party data.

### Cloud Implementation

Some systems supporting the 2020 Census Program plan to mitigate the surging demand on the systems by utilizing the Cloud as part of the architecture.

**IF** the Cloud, and the migration to it, is not evaluated, designed, and tested thoroughly, **THEN** any implementation of the Cloud may introduce system failures or process gaps with downstream implications.

Probability 3 (Moderately likely)	Impact 3 (Moderate impact)	Exposure level <b>MEDIUM</b>
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Mitigation Strategies include the following:

- Develop plans for alternate deployments of each 2020 Census system that is targeted to be hosted on the Cloud.

- Assign the 2020 Census Technical Integrator to develop a physical architecture for the 2020 Census System of Systems, including the assessment and design of a cloud architecture for the 2020 Census.
- Assign the 2020 Census Technical Integrator to assess every system of the 2020 Census System of Systems, including the systems suitability for the Cloud and the migration strategy if the system is determined to be suitable for the Cloud.

### Systems scalability

All systems supporting the 2020 Census Program must be able to handle the large, dynamic demands of the operations and support the system of systems.

**IF** systems are not properly designed, tested, and implemented with the ability to scale, **THEN** critical issues may arise when the need to scale up (or down) any system in the environment occurs, potentially eliminating the ability to scale during the production window of operations, and thereby limiting the capacity to support the operations or leading to failure of the system.

Probability 3 (Moderately likely)	Impact 3 (Moderate impact)	Exposure level <b>MEDIUM</b>
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Mitigation Strategies include the following:

- Under direction of SEI Chief Architect, conduct scalability assessment with the Technical Integrator team.
- Provide accurate demand models to the systems to ensure proper system of systems design.

### Technological Innovations Surfacing After Design Is Finalized

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 End-to-End Census Test.

**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.

Probability 2 (Not likely)	Impact 4 (Substantial impact)	Exposure level <b>MEDIUM</b>
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Mitigation Strategies include the following:

- Design and build versatile operations and systems.

- 
- Keep team members and management aware of evolving technological innovations.
  - Devote dedicated resources to track and communicate innovations.
  - Dedicate funds to incorporate innovations into the design.
  - Bring new technological innovations to the Portfolio Management Governance Board.
  - Reach out to data-collection institutions for knowledge-sharing.

## SUMMARY

The 2020 Census Operational Plan documents the design for conducting the 2020 Census. It reflects and supports evidence-based decision-making by describing design concepts and their rationale, identifying decisions made and remaining decisions, and describing remaining risks related to the implementation of the Operational Plan.

The 2020 Census is a design for the 21st century. No longer wholly dependent on paper-based processes, the design takes advantage of technology and the vast amount of already available data to conduct an efficient census that produces high-quality results. These innovations are focused in four key areas:

- **Reengineering Address Canvassing:** New, in-office methods allow the Census Bureau to use imagery and other data sources to validate the address list, significantly reducing the amount of fieldwork required to produce a quality address list.
- **Optimizing Self-Response:** Multiple methods and tools aimed at generating the largest possible self-response reduce the need to conduct expensive

in-person follow-up activities. These methods and tools include targeted advertising, extensive use of partnerships, effective contact strategies, encouraging people to respond via the Internet, and making it easy for people to respond anywhere and anytime.

- **Utilizing Administrative Records and Third-Party Data:** Information already provided to the government or third parties can be leveraged to increase the efficiency and effectiveness of the data collection operations.
- **Reengineering Field Operations:** Technology and automated operational control and administrative systems reduce the staffing, infrastructure, and brick-and-mortar footprint required for 2020 Census field operations.

The Census Bureau has conducted research and integration tests throughout the decade for the purpose of evaluating alternative designs and validating the assumptions regarding the feasibility of these designs.

The Census Bureau is well on its way to meeting the challenge of performing the most innovative and efficient census in 2020, while still meeting the expectations for quality required from an undertaking of such vital importance.

## APPROVAL SIGNATURE

Electronically Approved \_\_\_\_\_ March 12, 2018

Albert E. Fontenot, Jr. \_\_\_\_\_ Date  
Associate Director for Decennial Census Programs

## DOCUMENT LOGS

### Sensitivity Assessment

This table specifies whether the document contains any administratively restricted information.

#### Verification of Document Content

This document does not contain any:

- Title 5, Title 13, or Title 26 protected information.
- Procurement information.
- Budgetary information.
- Personally identifiable information.

### Review and Approvals

This 2020 Census Operational Plan Executive Summary document has been reviewed and approved for use. This table documents the necessary approvals leading up to the point of baselining.

#### Document Review and Approval Tier: The 2020 Census Operational Plan Executive Summary

Name	Area Represented	Date
Robin A. Pennington	Decennial Census Management Division, Program Management Office	November 22, 2017

#### 2020 Census Operational Plan Team Leadership Group:

Albert E. Fontenot, Jr.	Associate Director for Decennial Census Programs	March 12, 2018
James B. Treat	Assistant Director for Decennial Census Programs	March 12, 2018
Michael Thieme	Assistant Director for Decennial Census Programs	March 12, 2018
Deborah M. Stempowski	Chief, Decennial Census Management Division	March 12, 2018
Patrick J. Cantwell	Chief, Decennial Statistical Studies Division	March 12, 2018
Deirdre D. Bishop	Chief, Geography Division	March 12, 2018
Phani-Kumar A. Kalluri	Chief, Decennial IT Division	March 12, 2018
Burton Reist	Chief, Decennial Communications and Stakeholder Relations Office	March 12, 2018
Luis Cano	Chief, Decennial Contracts Execution Office	March 12, 2018
	Decennial Portfolio Management Governing Board	March 12, 2018
	2020 Census Executive Steering Committee	March 12, 2018

### Version History

The document version history recorded in this section provides the revision number, the version number, the date issued, and a brief description of the changes since the previous release. Baseline releases are also noted.

Rev #	Version	Date	Description
Final	V 1.0	November 6, 2015	Original baseline.
Final	V 2.0	March 2018	Updated version aligned with 2020 Census Operation Plan Version 3.0