



October 2019

# 2020 CENSUS

## Actions Needed to Improve Census Bureau's Process for Working with Governments to Build Address List

Accessible Version

# GAO Highlights

Highlights of [GAO-20-17](#), a report to congressional requesters

## Why GAO Did This Study

A complete address list is a cornerstone of the Bureau's effort to conduct an accurate census. LUCA is one of several operations the Bureau uses to produce its address list. It gives tribal, state, and local governments the opportunity to review the address list for their areas and provide the Bureau with any updates before the census.

GAO was asked to review the status of LUCA, including its effect on other operations, as well as LUCA's overall effectiveness and necessity. This report examines (1) LUCA's status and its likely effects on 2020 field operations, and (2) what considerations the Bureau and other stakeholders could use to reexamine LUCA for 2030. GAO reviewed Bureau plans, analyzed data from LUCA participation and the Bureau's review of submissions, and held 9 discussions on a possible reexamination of LUCA with relevant Bureau officials, a council representing participating governments, and census data subject matter specialists.

## What GAO Recommends

GAO is making eight recommendations to the Department of Commerce, including that the Bureau ensure more LUCA submissions are reviewed and reexamine LUCA to address the related issues GAO identified as part of the Bureau's strategic planning process for the 2030 Census. The Department of Commerce agreed with our findings and recommendations and described several cost savings and efficiency gains—which we have not audited—from their related address list-building efforts. The Census Bureau, Office of Management and Budget, and U.S. Department of Transportation each also provided us with technical comments, which we incorporated as appropriate.

View [GAO-20-17](#). For more information, contact Robert Goldenkoff at (202) 512-2757 or [goldenkoff@gao.gov](mailto:goldenkoff@gao.gov).

October 2019

## 2020 CENSUS

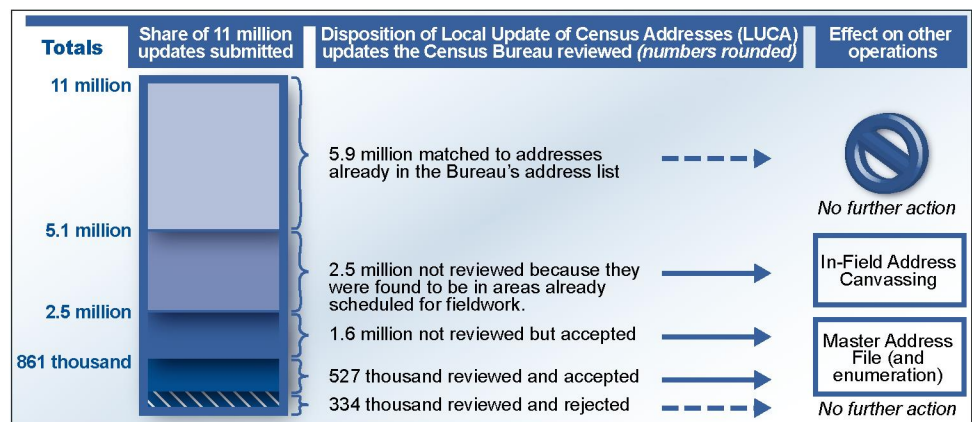
### Actions Needed to Improve Census Bureau's Process for Working with Governments to Build Address List

## What GAO Found

The Census Bureau generally followed the operational design for its Local Update of Census Addresses (LUCA) program, which is intended to give tribal, state, and local governments the ability to review and offer modifications to the Bureau's Master Address File (MAF). The Bureau met milestones, apart from extending the participation window for natural disaster-stricken areas, and generally followed plans for outreach, training, and participation options.

However, some decisions created additional fieldwork. The Bureau received more updates from participants than it expected, so it only reviewed roughly 860,000 of the 5.1 million updates that did not match to the MAF (see figure below). The rest will be added to potential fieldwork. Had more addresses been reviewed in-office, many may have been rejected, based on the rejection rate for reviewed addresses. Avoiding this unnecessary fieldwork could have saved the Bureau millions of dollars when following up with non-responding households.

**Most LUCA Updates That Did Not Match the Census Bureau's (Bureau) Data Were Added to the Bureau's Address List for Address Canvassing and Enumeration**



Sources: Census Bureau planning documents. | GAO-20-17

The Bureau has not reexamined LUCA with respect to the cost, quality, and public perception of the census since the program was authorized in 1994. Yet much has changed since then, from the tools the Bureau uses in building its address list to the provision of publicly accessible address data. As the Bureau turns to its strategic planning process for 2030, it will have several issues to address regarding the future of LUCA, including:

- whether LUCA should continue to have a role in building the address list given the advent of other address-building initiatives;
- how often to have governments review the MAF for the census, in light of the costs and benefits of administering such a program more frequently;
- whether statutory nondisclosure protection of census address data is still needed given that address data sources and services are more prevalent.

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### Abbreviations

Bureau	Census Bureau
DOT	Department of Transportation
GSS	Geographic Support System
OMB	Office of Management and Budget
LUCA	Local Update of Census Addresses
MAF	Master Address File
NRFU	Non-Response Follow-Up
NAD	National Address Database
USPS	United States Postal Service

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October 23, 2019

Congressional Requesters

A complete and accurate address list is a cornerstone of the Census Bureau's (Bureau) constitutionally mandated effort to count everyone once, only once, and in the right place. In 1994, Congress passed the Census Address List Improvement Act, which instructs the Secretary of Commerce to work with the Bureau to give tribal, state, and local governments the ability to review and offer modifications to the Bureau's Master Address File (MAF) in order to assist the Bureau's efforts to ensure the accuracy of the census.<sup>1</sup> The MAF is intended to be a complete and current list of all addresses and locations where people live or potentially live in the United States and Puerto Rico.

According to one of the sponsors of the legislation, the goals of the act were to improve the quality of the MAF, decrease the cost of compiling the MAF, and strengthen the relationship between local governments and the Bureau. Additionally, there was a particular concern with the undercount that occurred in the 1990 Census, including the differential undercount of minorities.<sup>2</sup>

First instituted for the 2000 Census, the Local Update of Census Addresses (LUCA) program was designed to implement the requirements of the Census Address List Improvement Act of 1994. LUCA involves a multi-phase process: participating governments review and propose modifications to the MAF; the Bureau reviews participant submissions and provides feedback; and the Office of Management and Budget (OMB) oversees a third-party review of appealed Bureau rulings. LUCA is one of multiple opportunities that tribal, state, and local governments have to provide input to the MAF. For the 2020 cycle, LUCA began in 2017 with invitations to nearly 40,000 governments. Additions to the MAF via LUCA will be finalized in January 2020.

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<sup>1</sup>Census Address List Improvement Act of 1994, Pub. L. No. 103-430, 108 Stat 4393 (Oct. 31, 1994).

<sup>2</sup>140 Cong. Rec. 27361 (1994) (statement of Rep. Tom Sawyer); see also, 140 Cong. Rec. 28298 (1994) (statement of Sen. Joseph Lieberman) (noting that the bill will save the Bureau money both in preparing its list and conducting the census).

You asked us to review the status of LUCA, its effect on other operations, and its overall necessity and effectiveness given the complexities of building the address list. This report examines (1) LUCA's status and likely effects on other 2020 Census operations, and (2) what considerations the Bureau and stakeholders could use to reexamine LUCA for 2030.

To address these objectives, we reviewed current and past implementation plans for LUCA. We conducted a literature review to identify any relevant third-party evaluations of past LUCA implementation, as well as documentation on development of the Census Address List Improvement Act of 1994 to better understand trends in LUCA implementation and the extent to which the program has evolved in line with its original purpose. Additionally, we interviewed former congressional staff who assisted in writing the legislation. We also interviewed senior Bureau officials, LUCA participant stakeholders, and subject matter specialists to solicit informed views on a range of current and future implementation issues.

To report on the current status of LUCA and the expected impact of any resulting address list changes on 2020 Census field operations, we obtained and analyzed multiple streams of data on LUCA participation from governments and address validation by the Bureau. We reviewed the Bureau's implementation of LUCA 2020 thus far to assess the extent to which it was in line with operational planning documentation. We found the data to be reliable for the purposes of our reporting objectives. We also reviewed current documentation and interviewed OMB officials on plans for the ongoing LUCA appeals process, in addition to reviewing prior evaluations related to the LUCA appeals process.

To identify considerations for a reexamination of the LUCA program, we held a total of nine discussions: three with groups of Bureau officials involved in managing LUCA; two with officials representing state governments; and four with selected subject matter specialists as identified by our internal stakeholders as well as by staff involved with a

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former panel on reengineering the census.<sup>3</sup> We structured these discussions around relevant questions identified in GAO's 21st Century Challenges: Reexamining the Base of the Federal Government.<sup>4</sup> We also reviewed our prior reports and documentation on the LUCA program as part of our summary of past implementation findings. Additionally, we reviewed planning and cost documentation and interviewed cognizant lead officials for geographic programs and initiatives related to LUCA to identify any alternative program designs.

We conducted this performance audit from January 2019 to October 2019 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Background

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### Purpose of the LUCA Program

A complete and accurate address list is the cornerstone of a successful census because it identifies all living quarters that are to receive a census questionnaire and serves as the control mechanism for following up with households that do not respond. If the address list is inaccurate, the

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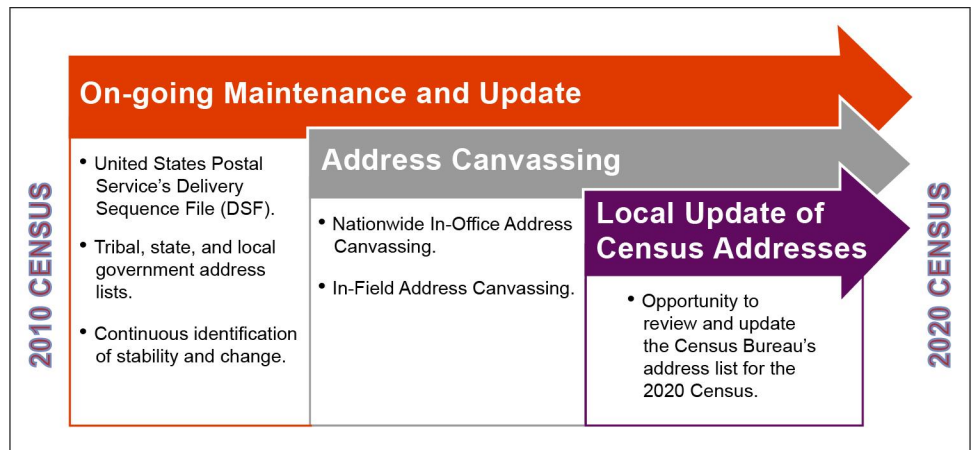
<sup>3</sup>We held two discussions with the steering committee of the Federal-State Cooperative for Population Estimates, a nationwide body of state-level population data experts who work with the Bureau on population data, including the decennial census. The Bureau worked with this group specifically on issues related to LUCA participation and feedback. We also held four discussions with subject matter specialists as identified by staff of a former National Academy of Sciences panel on re-engineering census operations. The subject matter specialists we successfully reached included a researcher with expertise in tribal demography, a researcher with prior state-level census participation experience, and two current local government practitioners with experience working with the Bureau on LUCA.

<sup>4</sup>GAO, *21st Century Challenges: Reexamining the Base of the Federal Government*, [GAO-05-325SP](#) (Washington, D.C.: Feb. 1, 2005). Relevant questions in the criteria for reexamining federal programs are grouped into the following categories: (1) What is the relevance of the program's purpose and the federal role in it? (2) How is the success of the program measured? (3) Is the program well targeted to those with the greatest needs and the least capacity to meet those needs? (4) Is the program affordable and cost effective?



Bureau may miss people, count them more than once, or include them in the wrong locations. As figure 1 shows, the Bureau’s approach to building complete and accurate address lists consists of a series of operations and are conducted throughout the decade. These operations include partnerships with the United States Postal Service (USPS) as well as tribal, state, and local governments. Other federal agencies, local planning organizations, the private sector, and nongovernmental entities may also contribute to these operations by providing the Bureau with updated address information as part of the Bureau’s continuous maintenance of the MAF.

**Figure 1: Developing an Accurate Address List Is a Labor-intensive, Multi-faceted Effort by the Census Bureau**



Sources: Census Bureau planning documents. | GAO-20-17

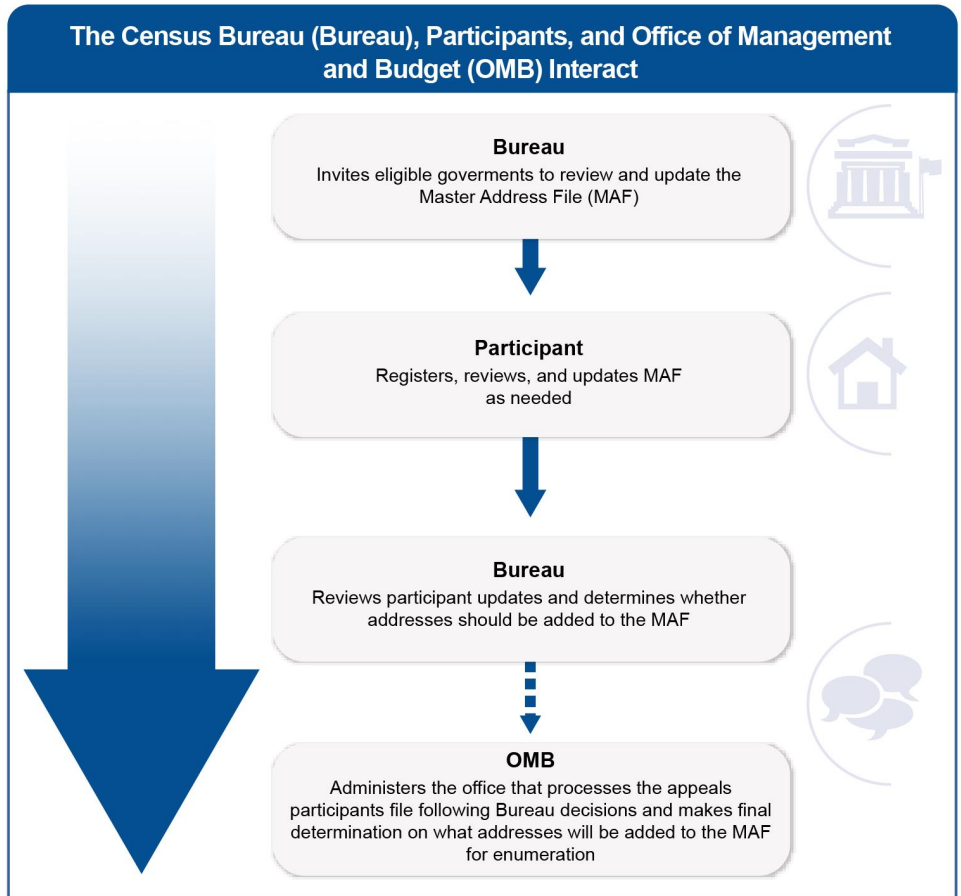
Like other information collected for the census, data collected through the LUCA program are subject to protections under title 13 of the U.S. Code. This means that data collected from the census cannot be used for non-statistical purposes or shared with unauthorized parties.<sup>5</sup>

The fundamental structure of LUCA has not changed since the Bureau first implemented it during the 2000 decennial cycle. The Bureau implements LUCA once every 10 years, near the end of the decennial

<sup>5</sup> Title 13 prohibits the Secretary of Commerce, an employee of the Department of Commerce, or local government census liaisons from using information collected for the decennial census for any purpose other than statistical purposes. Additionally, it is prohibited under Title 13 to make a publication that identifies any particular individual or allow anyone other than sworn officers and employees of the Department of Commerce to examine individual reports. 13 U.S.C. § 9(a).

census cycle. The Bureau invites governments to review the MAF for their respective areas. These governments must abide by Title 13 by protecting the address data from disclosure.<sup>6</sup> Participating governments can then submit address updates for inclusion in the address list before enumeration. The Bureau can accept or reject these address updates, which participants then have the opportunity to appeal through an appeals office that OMB administers and that the Bureau funds (see figure 2).

**Figure 2: Local Update of Census Addresses Program Adds to MAF at Multiple Points**



Source: GAO analysis of Census Bureau documents. | GAO-20-17

<sup>6</sup>13 U.S.C. §§ 9(a), 16(b)(5).

While the structure of the program is largely the same as in previous enumerations, the Bureau has made some changes to promote participation and reduce perceived participation barriers. For example, in 2010, the Bureau extended review timelines from 90 to 120 calendar days in response to LUCA participants' feedback that they did not have enough resources to complete a sufficient review within the Bureau's original time frame. Additionally, in the 2010 and 2020 cycles, the Bureau permitted state governments to participate in LUCA. State participation can provide coverage for local governments that may not have the resources to participate in the operation. Moreover, following the 2010 Census and in response to our prior recommendations, the Bureau assessed LUCA's contribution to the final census population counts. Doing so improved the Bureau's ability to determine how helpful LUCA was in gathering address information from participants across the nation.<sup>7</sup>

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## Procedures for Building the Address List and Counting Residents

In September 2014, the Bureau decided that it would only need to verify addresses door to door in those areas it could not resolve with the aid of computer imagery and third-party data sources—what the Bureau calls in-office address canvassing.<sup>8</sup> The Bureau used this method of address canvassing to reduce the costs of the labor-intensive “in-field address canvassing”, which cost about \$450 million during the 2010 Census. As part of this effort, the Bureau planned to rely on in-office address canvassing as the primary method for validating address updates submitted during LUCA 2020.

After the Bureau builds its address list, it must enumerate residents and follow up with them as necessary. Historically one of the most cost-intensive operations of the decennial census, the Bureau implements Non-response Follow-up after the self-response period so that it can (1) determine the occupancy status of individual nonresponsive housing units and (2) enumerate them. The Bureau allows up to six enumeration

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<sup>7</sup>GAO, *2010 Census: Census Bureau Has Improved the Local Update of Census Addresses Program, but Challenges Remain*, [GAO-07-736](#) (Washington, D.C.: June 14, 2007).

<sup>8</sup>GAO, *2020 Census: Bureau Needs to Better Leverage Information to Achieve Goals of Reengineered Address Canvassing*, [GAO-17-622](#) (Washington, D.C.: July 20, 2017).

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attempts for each nonresponsive housing unit or case.<sup>9</sup> Any addresses added from LUCA submissions become eligible to be enumerated.

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## Additional Sources of Address Data

Other sources of address data complement the Bureau's data-collection efforts. For instance, according to experts, systematic collection of address data is now common at the state and local level, which allows many governments to readily provide address information to the Bureau. Since 2013, the Bureau has also received address updates throughout the decade from the USPS as well as from tribal, state, and local governments through its Geographic Support System (GSS) Program, increasing the frequency of address updates.<sup>10</sup>

Outside of the auspices of Title 13-protected census data, states and federal agencies have worked toward making a national address database publicly available. For example, the National Address Database, managed by the U.S. Department of Transportation as part of its work with the Bureau on federal address data issues, is an open source database which enables governments to view and submit their address information, including geospatial coordinates, for use across governmental agencies. In 2015, we reported on the National Address Database and Title 13, suggesting that Congress consider assessing statutory limitations within Title 13 on address data to foster progress toward such a national address database.<sup>11</sup> However, there has been no legislative action at the time of this report.

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<sup>9</sup>GAO, *2020 Census: Additional Steps Needed to Finalize Readiness for Peak Field Operations*, [GAO-19-140](#) (Washington, D.C.: Dec. 10, 2018).

<sup>10</sup>The GSS Program is a voluntary operation which permits tribal, state, and local governments to periodically submit updated address data without reviewing the MAF for their respective areas.

<sup>11</sup>GAO, *Geospatial Data: Progress Needed on Identifying Expenditures, Building and Utilizing a Data Infrastructure, and Reducing Duplicative Efforts*, [GAO-15-193](#) (Washington, D.C.: Feb. 12, 2015).

## The Bureau Generally Implemented LUCA in Accordance with Its Plan, but Some Decisions Increased Fieldwork

### The Bureau Met Nearly All Milestones, Conducted Outreach, and Obtained Participation According to Its Operational Plan

We found the Bureau’s implementation of LUCA 2020 largely followed its operational plan, including key milestones, as well as outreach and training objectives.

- Milestones.** Through July 2019, the Bureau had met its milestones laid out in the LUCA 2020 Operational Plan as summarized in table 1, with two minor changes that provided participating governments additional time. First, in starting up the program, the Bureau was able to mail out advance notice packages a month earlier than specified in the 2020 Operational Plan to give potential participants additional time to assess the resources they would need to participate before receiving the formal invitation. Secondly, the Bureau extended the deadline for participating governments to submit address updates because natural disasters affected large regions of the country.

**Table 1: The Bureau Met Nearly All Milestones for the 2020 Local Update of Census Addresses (LUCA) Operation**

Activity	Planned date	Actual date
Mail advance notice package	February 2017	January 2017 (Early start)
Mail invitation package	July 2017	July 2017
Mail participant review materials	February 2018	February 2018
Deadline to receive LUCA address updates	October 2018	December 2018 (Extended due to natural disasters)
Complete validation of LUCA address updates	March 2019	March 2019

Source: Bureau planning documents and operation updates. | GAO-20-17

- Outreach and training.** The Bureau performed outreach and training according to its LUCA 2020 Operational Plan. For example, the Bureau provided technical training workshops for government representatives, including training on address privacy laws.

## The Bureau Implemented Its Planned Participation Options for LUCA, but the Bureau’s Participation Metric Excludes Useful Information

The Bureau implemented a streamlined participation process and received address updates from participating governments covering 96 percent of the estimated population of the country.<sup>12</sup> Based on the Bureau’s post-2010 recommendations to improve LUCA for the 2020 Census, the Bureau did not ask participants to provide their full address lists (an option in 2010), but invited governments to review only the Bureau’s address list and offer updates. As shown in table 2, the Bureau saw little change in the number of governments invited to participate, registering to participate, and responding from the 2010 Census.

**Table 2: The 2020 Local Update of Census Addresses Operation (LUCA) Participation over Time**

Category	2010	2020
Number of governments invited to participate in LUCA	39,329	39,731
Number of participants that registered	11,500	11,550
Number of participants who responded (with or without updates)	8,513	8,389

Source: GAO analysis of Census Bureau documentation. | GAO-20-17

The changes in participation options prevent precise analysis of participation beyond counting the number of governments that responded in some fashion. Moreover, in 2000, the Bureau implemented LUCA with two phases of data collection—one for rural addresses and one for urban, with some governments eligible to provide address updates during both phases. This differs from later decennials which condensed LUCA into a single phase.

However, the Bureau’s measure for government participation excludes important information about the degree of that participation. For instance, only 8,389—or 21 percent of the nearly 40,000 tribal, state, and local governments—participated in LUCA 2020. According to Bureau officials and subject matter specialists we interviewed, address data are generally improved when both a state and another level of government participate

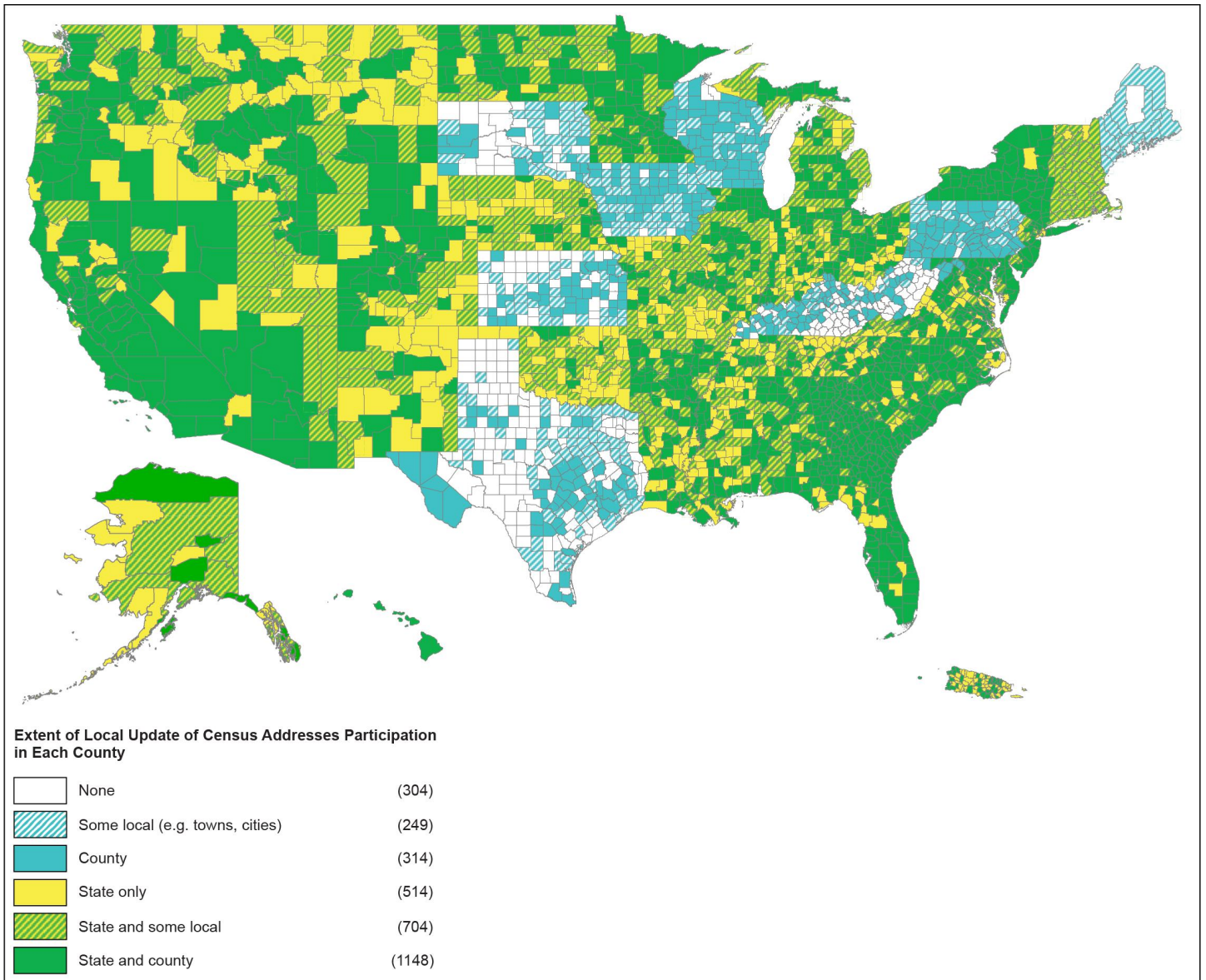
<sup>12</sup>Population here refers to people rather than housing units or geographic areas. The Bureau did not calculate population coverage for 2000 and 2010.

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in LUCA, even if the respective address updates cover some of the same addresses. According to the Bureau, such redundancies can help address the possibility of coverage gaps in any one government's address updates. Governments at the more local level can apply their targeted, on-the-ground intelligence in cases where a state government may lack the resources and data to cover the entire population as part of its review of the MAF.

As figure 3 shows, the degree of local participation in LUCA varied greatly across the country. For example, while state governments in New Mexico and Oklahoma participated, many counties and local governments (e.g., towns and cities) within those states did not. Moreover, states like Texas and South Dakota lacked any form of coverage in LUCA for many of their counties. In contrast, large parts of the west coast and the southeast benefitted from participation in LUCA by governments at multiple levels.

**Figure 3: Degree of Local Update of Census Addresses (LUCA) Participation Varied across the Country**



Source: GAO analysis of Census Bureau data. | GAO-20-17

Note: If a county government responded, this map does not indicate whether local governments within that county also participated. Additionally, counties without county governments or that had consolidated their county governments with other local governments appear as having participated at the "some local," instead of "county," level.

The Bureau maintains participation data on government type and shows information similar to figure 3 on its external website. However, the



percentage of the population covered by at least one form of government submission—identified by the Bureau as a primary performance measure—does not identify participation in this way, nor does it distinguish between governments representing a mix of urban and rural geographic areas that have participated. Bureau officials told us that state-centric participation was a focus for LUCA 2020 and that they encouraged local governments to coordinate with state governments on their address lists.

The purpose of the legislation that prompted LUCA was to help ensure accuracy of the census by permitting various levels of government to review the Bureau's address data. We have previously reported that a program's measures should be consistent with the program's initial (or updated) statutory mission.<sup>13</sup> The Census Address List Improvement Act of 1994 called for the Bureau to solicit input on the address list from tribal and local governments as well as state governments.<sup>14</sup> The Bureau may be able to find opportunities to obtain more complete coverage by tracking metrics related to the types of governments participating in LUCA and the degree to which tribal, state, and local governments are complementing each other's address updates. In doing so, the Bureau could ensure that the LUCA program is contributing to accurate enumeration. Tracking these metrics would also give the Bureau valuable feedback on the success of its nationwide outreach and could increase the accuracy of the MAF.

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### The Bureau's Design and Implementation of LUCA Address Validation Led to Additional Fieldwork

Fieldwork in other 2020 Census operations increased as a result of (1) LUCA's original operational design, and (2) subsequent implementation decisions the Bureau made in response to receiving a larger number of address updates than it expected from participants. By design, the Bureau had planned not to review suggested changes occurring in geographic areas previously determined to be high growth, since the Bureau had already planned to canvass such areas for addresses door-to-door later. When the Bureau received more than two million more address updates than it had expected, it decided to review a sample of

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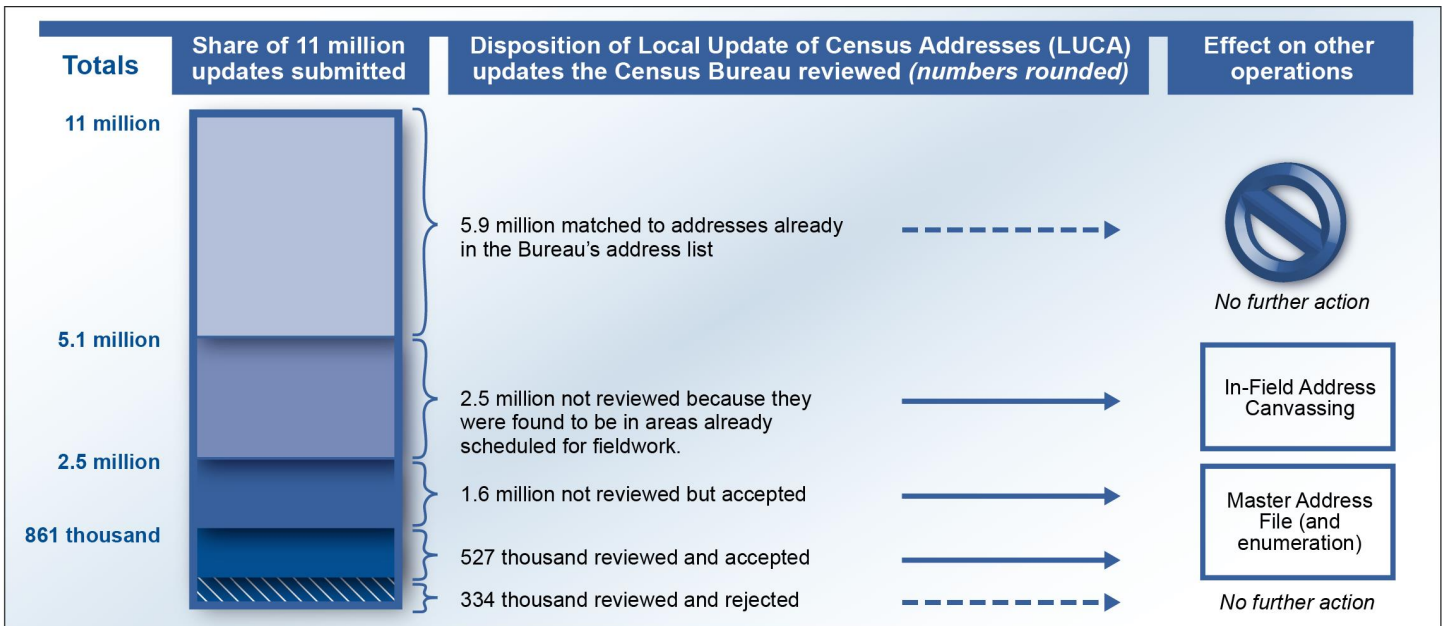
<sup>13</sup>[GAO-05-325SP](#).

<sup>14</sup>Pub. L. No. 103-430, § 2.

updates in areas not slated automatically for in-field review, passing even more work directly on to Non-Response Follow-Up (NRFU) at a potential cost of more than \$25 million (in constant 2020 dollars).

The Bureau received 11 million address updates proposed by participating governments, but about 5.1 million of these did not match addresses in the MAF— approximately two million more than expected. Bureau officials had not formalized any specific estimates but initially expected that participants would propose about 5 million address updates to the MAF, of which about 2.8 million would not match to the MAF and would need to be reviewed. As figure 4 shows, 2.5 million of the 5.1 million new address updates that LUCA participants submitted were in high-growth areas and passed directly on to in-field address canvassing. While the Bureau’s reengineered approach to address canvassing for 2020 substantially reduced fieldwork, this pass-through of additional workload represents a missed opportunity for the Bureau to further reduce costs for in-field address canvassing. With a planned cost of \$185 million (in fiscal year 2019 costs) for 2020, in-field address canvassing is one of the most expensive census operations, according to the Bureau’s July 2019 lifecycle cost estimate.

**Figure 4: Most LUCA Updates That Did Not Match the Bureau’s Data Were Added to the Master Address File for Address Canvassing and Enumeration**



Sources: Census Bureau planning documents. | GAO-20-17

Another decision also led to increased workload. The Bureau streamlined its address validation process in response to the higher-than-anticipated number of address updates received. To manage this workload, the Bureau reviewed only a sample of address updates suggested by governments with 200 or more addresses otherwise eligible for review (861,000 total updates out of 2.5 million) that were in areas not already flagged for in-field address canvassing.

As a result, the Bureau added more than 1.6 million address updates to the MAF without review as shown above, even though they were eligible for in-office address canvassing. The Bureau will attempt to enumerate households during the census through self-response methods, such as online or paper questionnaires. If the Bureau does not initially receive responses, these addresses will become part of the NRFU workload. Had these addresses been canvassed in office, it is likely that many of them would have been rejected, based on the rejection rate for other addresses. Specifically, the Bureau rejected 39 percent (334,000 out of 861,000) of the address updates it reviewed in its sample.

If a similar rate of rejection were to have occurred in both groups, roughly 624,000 additional address updates would have been rejected instead of being included in the enumeration universe with possible unnecessary NRFU follow up. Assuming the same average cost of NRFU per case as in 2010, these additional cases receiving census questionnaires could result in an unnecessary \$25 million in costs (in constant 2020 dollars).<sup>15</sup>

*Standards for Internal Control in the Federal Government* indicates that agencies should use quality information to achieve their objectives.<sup>16</sup> The Bureau's decisions to limit the reviews conducted on submitted LUCA updates mean that the Bureau will have some addresses in the MAF for address canvassing and NRFU of unknown quality that will result in potentially unnecessary fieldwork. Creating the conditions whereby the Bureau can expand the scope of in-office review of tribal, state, and local additions to the MAF will better position the Bureau to reduce its fieldwork and related costs.

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<sup>15</sup>The Bureau estimated in its post-2010 evaluation that the per-case cost of NRFU was \$33.60 (\$40.10 in constant fiscal year 2020 dollars).

<sup>16</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014).

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## The Bureau and OMB Expect to Receive Fewer Appealed Addresses, but Opportunities May Exist to Assess Outcomes of the Appeals Process

The Census Address List Improvement Act of 1994 required that OMB establish a process to adjudicate differences between the Bureau and LUCA participants over proposed address updates to the MAF.<sup>17</sup> The Bureau and the LUCA appeals office that OMB established will conduct the feedback and appeals phases of LUCA, respectively, from July 2019 through January 2020. Feedback to participants began in July 2019, and the subsequent appeals process is expected to run through January 2020.

The Bureau and OMB expect fewer LUCA appeals for 2020 than in 2010 due in part to the Bureau's decision to review only a portion of submitted address updates and provisionally accept the rest. In 2010, participants could appeal 13.3 million addresses, while according to the Bureau only about 1.7 million addresses will be eligible in 2020. According to OMB, as of mid-October 2019, the LUCA appeals office had begun processing files containing appealed addresses from 1,122 participants. Officials indicated the appeals office will not determine the total number and dispositions of addresses processed until after the end of the operation. As in 2010, OMB is giving participants 45 calendar days to appeal the Bureau's individual address reviews.<sup>18</sup>

Since 2000, the LUCA appeals process has resulted in approval of more than 90 percent of LUCA appeals that participating governments have submitted, including more than 1.6 million appealed addresses (91 percent) in 2010. OMB officials noted that the practice for the appeals process is to side with the participants if the weight of evidence on either side of an appealed address is equal, which may account for the high percentage of approved appeals. OMB is replicating this practice for 2020, according to the final regulation establishing the LUCA appeals process in July 2019.<sup>19</sup> Yet the Bureau's post-2010 evaluation showed that, among all forms of late additions to the MAF, addresses that were

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<sup>17</sup>Pub. L. No. 103-430, § 3.

<sup>18</sup>In 2000, participants had 30 days to file an appeal with the Census Address List Appeals Office.

<sup>19</sup>84 Fed. Reg. 34201, 34205 (July 17, 2019).

reinstated to the MAF because of a LUCA appeal were the least likely to be found valid as either residential or commercial addresses.<sup>20</sup> Ultimately, the Bureau enumerated individuals at 55 percent of such addresses for the 2010 Census (compared to 83 percent of addresses added late to the MAF through other operations). The 2010 LUCA appeals process resulted in the Bureau contacting and enumerating over 700,000 households that otherwise would be less likely to be enumerated, yet the high rate of erroneous addresses added to the MAF through appeals reinstatement will be an additional source of NRFU workload, making that operation more costly than necessary.

Given that LUCA is one of several operations used to build the MAF, it is important for the Bureau to assess and determine how the high rate of LUCA address updates that are reinstated through the appeals process affect other operations and, thus, LUCA's cost-effectiveness. *Standards for Internal Control in the Federal Government* states that management should use quality information to achieve the entity's objectives.<sup>21</sup> In its post-2010 evaluation, the Bureau acknowledged that it needed to research the reason for this seemingly low enumeration rate and to form a plan to resolve the cause. However, it has yet to do so. Evaluating the enumeration outcomes of appealed addresses and identifying factors that led to these results could help to reduce the cost of unnecessary enumeration attempts, as well as costs associated with the administration of the appeals process.

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### The Bureau Lacks Data on Costs of Related Address List Development Efforts to Compare LUCA's Cost-Effectiveness

The Bureau provided us with estimates for what LUCA would cost for the 2020 Census, but it was unable to provide sums for other address-building operations. The Bureau estimates that LUCA 2020 operations will cost \$29.6 million. Among other expenses, this includes certain information technology costs, printed materials for outreach, and salaries for Bureau staff and contractors throughout the decade.

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<sup>20</sup>Late additions to the MAF also include addresses from the Spring Delivery Sequence File and the Ungeocoded Resolution operation. In these cases, residents do not have the full self-response window available during the census and so are less likely to respond before NRFU.

<sup>21</sup>[GAO-14-704G](#).

Beyond the LUCA operation, the Bureau has several other initiatives that provide information for the MAF, such as the USPS's Delivery Sequence File and the GSS Program. According to Bureau cost documentation, these operations are funded through the Bureau's Geographic Support Program at a level of \$59 million annually since 2016.<sup>22</sup> However, the Bureau does not isolate the costs of operations within the Geographic Support Program that may provide information on the relative cost-effectiveness of LUCA and related operations in updating the MAF. Bureau officials and stakeholders that we spoke with have cited the GSS initiative—which processes tribal, state, and local modifications to the MAF throughout the decade—as an alternative design for LUCA. Officials told us that costs for GSS are not tracked separately from other initiatives that update the MAF and the Bureau's geocoding database.

Standards for Internal Control in the Federal Government states that agencies should establish and operate monitoring activities, such as tracking program costs.<sup>23</sup> Additionally, GAO's 21st Century Challenges: Reexamining the Base of the Federal Government indicates that, to meet current and future challenges, it is important to evaluate whether programs are using the most cost-effective or net-beneficial approaches when compared to other tools and operation designs.<sup>24</sup> Since the Bureau does not isolate costs specific to various design components it uses to build and update its address list, it is not possible to evaluate the relative cost-effectiveness of LUCA's current design in the context of other address-list building the Bureau has undertaken for the 2020 Census. Identifying and tracking these costs would help the Bureau to determine the cost-effectiveness of its address-building activities and identify improvements.

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<sup>22</sup>The LUCA program receives its funding through a separate appropriation for the decennial census.

<sup>23</sup>[GAO-14-704G](#).

<sup>24</sup>[GAO-05-325SP](#).

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## Opportunities Exist to Reexamine LUCA's Role in the Decennial

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### Observations from LUCA 2020 Identify Challenges for Future Implementation to Address

While the Bureau largely implemented its approach for LUCA 2020 as planned, the Bureau missed several opportunities to maximize the benefits of LUCA toward improving the quality and reducing the cost of the census. Specifically, increased fieldwork, time for participants to review their address lists, and use of data on hard-to-count populations all emerged as challenges for the Bureau to address in any future implementation of LUCA or a similar program.

**Data from LUCA reviews could have helped administrative records modeling.** In 2020, the Bureau is planning to use administrative records to reduce the amount of follow-up it does seeking responses from vacant or nonexistent addresses.<sup>25</sup> Bureau officials noted that the Bureau learns information from its review of the quality of LUCA updates that could benefit its modeling with administrative records, perhaps resulting in more cases where administrative records are deemed good enough to reduce NRFU further.

Standards for Internal Control in the Federal Government states that agencies should use quality information to achieve their objectives, in part by obtaining relevant data from reliable sources.<sup>26</sup> The Bureau did not, however, plan to use information about addresses gathered during LUCA—such as during its reviews of address updates during LUCA validation—to help with its use of administrative records for the 2020 Census, nor determine how best, and when, to transfer data between the respective Bureau teams to make this happen. However, having information on the likelihood of addresses existing can help the Bureau

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<sup>25</sup>The Bureau plans to leverage a range of administrative records from government sources, such as Medicare enrollment and the Selective Service, to compile enumeration data when appropriate and determine the occupancy status of addresses from which the Bureau did not receive a response to the census. See GAO, *2020 Census: Bureau Is Taking Steps to Address Limitations of Administrative Records*, [GAO-17-664](#) (Washington, D.C.: July 26, 2017).

<sup>26</sup>[GAO-14-704G](#).

tailor its strategy for following up with addresses that do not produce census responses. In addition, incorporating information learned about addresses added through the appeals process may also improve the results of the Bureau's modeling with administrative records, which could in turn reduce workload during NRFU.

**Time constraints continue to limit participation.** Officials of multiple participating governments and other subject matter specialists told us that the constrained timing of LUCA continues to be a barrier for governments to fully participate. For 2020 and in prior iterations of LUCA, insufficient time was one of the leading factors behind governments' decisions not to participate. Our prior work on re-examining the base of the federal government highlights the importance of ensuring that a program is meeting its original purpose.<sup>27</sup> Since its inception, LUCA has been intended to ensure that tribal, state, and local governments have the opportunity to review the Bureau's decennial address list.<sup>28</sup> In the 2010 Census, the Bureau increased the length of time governments had for reviewing the MAF from 90 days to 120 days, and kept this length for 2020. Yet, if governments lack the resources needed to review address lists, and if governments run out of time, they either may not participate, or their address updates may not reflect a comprehensive review of the MAF for their jurisdictions.

Bureau officials agreed that more time for governments to participate would be better. Facilitating increased participation, along with expanding the scope of in-office reviews of LUCA submissions, however, may require the Bureau to realign its schedule for other phases of tribal, state, and local outreach. Figure 5 shows one potential opportunity for the Bureau to do this. The Bureau scheduled a 5-month gap between the end of its in-office address canvassing (and thus LUCA address validation) and the beginning of in-field address canvassing. Bureau officials said this period is needed to determine the right number of listers to hire and train, as well as to prepare official address materials needed for later operations. However, the 2020 schedule gave participants less time to submit updates than they could have had if the Bureau's address validation phase had taken place later.

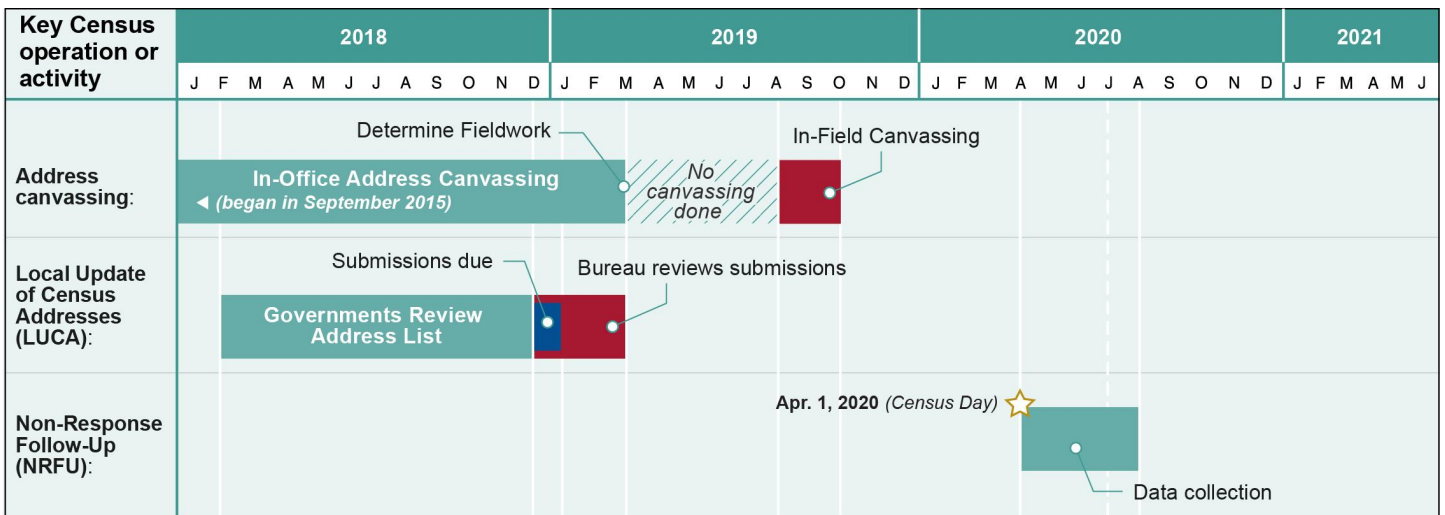
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<sup>27</sup>[GAO-05-325SP](#).

<sup>28</sup>State governments were invited to participate alongside tribal and local governments beginning in 2010.



**Figure 5: Census Bureau Review of LUCA 2020 Address Updates Ended Several Months before In-Field Address Canvassing**



Source: GAO summary of Census Bureau information. | GAO-20-17

Moreover, as previously noted, participants had from July 2017 to February 2018 to register for LUCA; officials noted that it could be possible to provide the review materials on a rolling basis so that participants who registered early could have more time to review their address lists. Finding opportunities like this to give participants more time for their review could improve the Bureau’s coverage.

**The Bureau did not use its data on hard-to-count areas to help guide LUCA.** During LUCA 2020, the Bureau missed an opportunity to target efforts in order to improve address listing in areas considered by the Bureau to be hard-to-count. We have previously reported on the importance of targeting a program’s benefits to those with the greatest needs and the least capacity to meet those needs.<sup>29</sup> The Bureau maintains publicly available data at the census tract level on the extent to which a geographic tract (roughly the population size of an urban neighborhood) is considered hard-to-count.<sup>30</sup> Bureau officials told us, however, that they had not previously considered reviewing these data regularly when monitoring LUCA participation or prioritizing in-office

<sup>29</sup>GAO-05-325SP.

<sup>30</sup>The Bureau’s Response Outreach Area Mapper shows which areas of the country are considered hard-to-count according to an index of demographic indicators from American Community Survey data.

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review workloads. When an address is missing, the people at that address are more likely to be missed by the census.

Bureau officials managing LUCA told us that using the Bureau's data on hard-to-count areas could have given them insights into whether they were receiving LUCA participation for areas most in need of improvements in census coverage and whether they needed to better target their LUCA outreach. Moreover, Bureau officials told us that they would prefer to have more opportunity to provide feedback to participants regarding their submitted updates and their address lists. Given the time constraints discussed elsewhere in this report, data showing which participants are in hard-to-count areas could help the Bureau prioritize governments with which to invest time giving feedback. According to Bureau officials, this information could also help the Bureau prioritize its resources in other address list-building efforts, such as which areas the Bureau should conduct additional rounds of in-office address canvassing to ensure that recent address updates are not missed.<sup>31</sup>

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## The Bureau Faces Additional Issues When Reexamining the Role of LUCA for the 2030 Census

Conditions surrounding LUCA have changed since LUCA was first implemented in the 2000 Census. For example, the dissemination of publicly available address data has increased, and the Bureau has developed other mechanisms for governments to provide input to its address list. However, LUCA's designed role in the census has not fundamentally changed or been reexamined since its authorizing legislation. Moreover, the Bureau will soon begin its process for planning geographic programs for 2030. This presents an opportunity to reexamine LUCA's contributions to building a complete and accurate address list.

In 2005, we identified criteria for reexamining federal programs in order to address fiscal instability while updating federal programs and priorities to meet current and future challenges.<sup>32</sup> These criteria are based on a need to inform Congress of our insights in order to help its budget and programmatic deliberations and oversight activities. These criteria include

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<sup>31</sup>[GAO-17-622](#). As part of in-office address canvassing for 2020, the Bureau implemented a process whereby updates to address data throughout the decade could trigger additional rounds of review for areas the Bureau has already reviewed at least once.

<sup>32</sup>[GAO-05-325SP](#).

whether the program is using the most cost-effective approach when compared to other tools and program designs; whether a program is targeted to those with the greatest need; and what would be the likely consequences of eliminating an operation.

Our review of Bureau documents and evaluations—along with interviews of Bureau officials, subject matter specialists, and state-level LUCA participant stakeholders—identified several issues for the Bureau to resolve with stakeholders, Congress, and other federal agencies as part of the planning process for the 2030 Census:

- **Assessing whether LUCA should continue to have a role in building the address list.** The first issue for the Bureau, Congress, and other stakeholders to resolve is whether LUCA should continue to be a vehicle for tribal, state, and local additions to the MAF. The Bureau receives intergovernmental inputs into the MAF through multiple sources, such as GSS and surveys of local governments to determine jurisdictional boundaries. The Bureau's decisions on the scope of LUCA address validation for 2020 also mean that the effects of LUCA on address list quality are unclear. Yet, a committee of state-level stakeholders and subject matter specialists emphasized the value of having a forum for governments to review the Bureau's address list—a feature that is currently unique to LUCA. By registering for LUCA under the authority of Title 13 nondisclosure requirements, governments can also receive feedback from the Bureau on their individual address updates, which the chair of a nationwide group of state-level population data officials told us was valuable. Moreover, stakeholders told us that having a program like LUCA late in the decennial cycle may help promote awareness of the census at the state and local level.
- **Determining how frequently to have governments review the MAF.** The method and frequency with which governments can review the MAF is another issue for the Bureau to resolve. A committee of state-level stakeholders and subject matter specialists told us that having more opportunities for tribal, state, and local review of the MAF during the decade would increase participation and thus quality of the MAF by relaxing the time constraints that have historically deterred participation in LUCA. Bureau officials also told us that a continuous program would provide more opportunities for governments to refine their address lists based on feedback from the Bureau. However, increasing the frequency of address updates, reviews, and appeals during the decade would increase program administration costs, and such a program's design would need to account for the fact that

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smaller governments and LUCA nonparticipants already cite the lack of human and financial resources as a barrier to participation.

- **Considering whether to make it easier for governments to access and share address data.** Given the prevalence of modern address sources and services, the question of how closely to protect data on census addresses is another issue for the Bureau to resolve in conjunction with Congress and stakeholders. We have previously recommended that Congress consider revising Title 13 nondisclosure protections for address data.<sup>33</sup>

Bureau officials and subject matter specialists we interviewed said if federal agencies and tribal, state, and local governments could more easily share address lists, there could be benefits to address list quality. Bureau officials have also described scenarios in which it may be possible to enact targeted modifications to Title 13 so that only address data are affected. However, subject matter specialists we interviewed also noted that Title 13 protections can give reassurances to local residents and facilitate participation in building local address lists. Allowing widespread disclosure and use of the Bureau's address list could also raise questions about which address lists are considered authoritative.

- **Determining the role that a National Address Database should play in contributing to the Bureau's address list.** Deciding whether or how to leverage an existing publicly accessible address list as part of the Bureau's decennial efforts is another issue to resolve. We have previously recommended that agencies responsible for interagency address and geospatial policy take actions to facilitate collection of national geospatial address data.<sup>34</sup> First piloted in 2015 and now managed by the U.S. Department of Transportation (DOT), the National Address Database (NAD) provides publicly available address and geographic coordinates to government and non-government users. State-level stakeholders and DOT officials said a centralized, open-source form of address data would benefit public services, such as emergency response. Going forward, however, it will be important to address resource constraints that limit the NAD's reach. DOT's lead

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<sup>33</sup> [GAO-15-193](#). Address data that are collected for the decennial census are protected by Title 13, 13 U.S.C. § 9; see *Baldrige v. Shapiro*, 455 U.S. 345, 359 (1982).

<sup>34</sup> [GAO-15-193](#); See also GAO, *Geospatial Information: OMB and Agencies Need to Make Coordination a Priority to Reduce Duplication*, [GAO-13-94](#) (Washington, D.C.: Nov. 26, 2012).

official for the NAD said that there are two permanent staff who oversee nationwide outreach and data collection, and at the time of this report, the NAD only has data from partners in 23 states.

These issues have been prompted by developments that have taken place this decennial cycle, such as the development of the NAD and the advent of additional inputs into the MAF such as GSS; therefore, the Bureau has not yet had an opportunity to evaluate them in its decennial planning. Standards for Internal Control in the Federal Government underscores the need to identify, analyze, and respond to significant changes, as well as use quality information and communicate externally with stakeholders.<sup>35</sup> With strategic planning for 2030 geographic programs in mind, the Bureau has an opportunity to engage with stakeholders, other federal agencies as appropriate,<sup>36</sup> and Congress to resolve these issues and evaluate how various alternatives could impact the cost, quality, and public perception of the census.

The above issues do not exist in isolation, however, and need to be resolved jointly. For instance, decisions to make address data more accessible would increase inter-agency data sharing and thus incentives for governments to participate in open-source address initiatives like the NAD. Decisions on whether to continue LUCA in its current form will affect the tools, such as GSS, available to tribal, state, and local governments to provide updates to the MAF. As the Bureau engages with affected partners on these issues, it will be important to consider various scenarios that could flow from resolving these issues in concert with each other.

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## Conclusions

The Bureau's implementation of LUCA for 2020 is on track in terms of milestones thus far, and the process for governments to appeal rejected LUCA address updates is ongoing and will continue through January 2020. The Bureau also implemented planned changes to participation options for governments and tracked participation by government.

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<sup>35</sup>[GAO-14-704G](#).

<sup>36</sup>For instance, the USPS shares address data with the Bureau and is governed by its own statutory limits on public disclosure. See 39 U.S.C. § 412. Any revisions to how the Bureau treats address data should consider changes to other such provisions as appropriate.

However, the Bureau's primary metric for representing the coverage of the nation by the LUCA operation does not leverage other information the Bureau already has on the degree of useful overlap in coverage across different levels of participating governments. Identifying and reporting metrics on the extent to which governments participating in LUCA overlap in their coverage of residents, as well as the characteristics of participants such as type of government and the nature of their geographic area, could provide more complete and useful feedback on the success of LUCA and assurance of getting desired coverage while avoiding gaps.

We also found that opportunities exist for the Bureau to further reduce fieldwork and make its address list-building efforts more cost effective. In the future, the Bureau could more fully use its in-office address validation process for LUCA to reduce costs and improve decennial accuracy. Further, identifying the factors that lead to enumeration outcomes of the LUCA appeals process may also produce lessons learned that could help lower the amount of fieldwork and thus costs. Moreover, maintaining more detailed cost data for the Bureau's other related address list development efforts will help position the Bureau to evaluate the relative cost-effectiveness of LUCA in building the address list. Likewise, the Bureau could also leverage the results of its in-office review of LUCA updates, as well as its evaluation of the appeals process, to inform its administrative records modeling and potentially reduce the number of required in-field NRFU visits.

The Bureau can similarly take additional steps through programs like LUCA to promote greater coverage in the census. By realigning the schedule of LUCA where appropriate, the Bureau could give tribal, state, and local governments more time to review the address list in their areas and thus more time to provide quality updates to the Bureau. Moreover, using data on participation in LUCA and related programs, in concert with existing data on hard-to-count areas, would help the Bureau target its resources for building the address list and conducting decennial outreach to those areas most in need.

We have also identified fundamental issues related to the Bureau's address list activity that will require a forward-looking, stakeholder-inclusive approach for the Bureau to resolve. Re-examining LUCA and the related issues will not be easy, and could take time. The Bureau is uniquely positioned to lead the identification and assessment of what the alternatives are, and particularly how they might affect the cost and quality of the decennial census. Reporting out on the alternatives and their justifications, and developing legislative proposals, as may be

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appropriate, will help the Bureau, Congress, and the users of census data benefit from cost and quality improvements in decennials to come.

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## Recommendations for Executive Action

We are making the following eight recommendations to the Department of Commerce and the Census Bureau:

The Secretary of Commerce should ensure that the Director of the Census Bureau identifies metrics on the extent to which governments participating in LUCA overlap in their coverage of residents, as well as the characteristics of participants such as type of government and geographic area, and reports on such metrics. (Recommendation 1)

The Secretary of Commerce should ensure that the Director of the Census Bureau takes steps to conduct in-office reviews of a greater share of addresses submitted by governments before the addresses are added to the Bureau's address list for potential field work. (Recommendation 2)

The Secretary of Commerce should ensure that the Director of the Census Bureau, as part of the Bureau's assessment of LUCA for 2020, consults with OMB to report on the factors that led to enumeration outcomes of addresses reinstated to the Bureau's master address list by the LUCA appeals process. (Recommendation 3)

The Secretary of Commerce should ensure that the Director of the Census Bureau identifies and tracks specific costs for related address list development efforts. (Recommendation 4)

The Secretary of Commerce should ensure that the Director of the Census Bureau improves the use of LUCA results to inform procedures of other decennial operations, such as sharing information on address update quality to inform NRFU planning or administrative records modeling. (Recommendation 5)

The Secretary of Commerce should ensure that the Director of the Census Bureau realigns the schedule of LUCA-related programs to provide participants with more time to review addresses. (Recommendation 6)

The Secretary of Commerce should ensure that the Director of the Census Bureau uses the Bureau's data on hard-to-count areas to inform geographic activities such as: targeting LUCA outreach to tribal, state, and local governments; planning additional rounds of in-office address canvassing; and providing feedback to tribal, state, and local governments on gaps in their respective address data. (Recommendation 7)

The Secretary of Commerce should ensure that the Director of the Census Bureau, as part of the Bureau's strategic planning process for geographic programs, reexamines LUCA in conjunction with stakeholders, other federal agencies as appropriate, and Congress to address the issues we have identified, including but not limited to:

- Identifying and assessing alternatives and describing corresponding effects on the decennial census.
- Reporting out on the assessment of alternatives, including justifications.
- Developing legislative proposals, as appropriate, for any changes needed to LUCA and address data in order to implement preferred alternatives. (Recommendation 8)

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## Agency Comments and Our Evaluation

We provided a draft of this report to the Secretary of Commerce, the Acting Director of the Office of Management and Budget, and the Secretary of Transportation. In its written comments, reproduced in appendix I, the Department of Commerce agreed with our findings and recommendations and said it would develop an action plan to address them. The Department's response also describes several claims of cost savings and efficiency gains attributable to various address list-building activities. While we have previously reported on the Census Bureau's 2020 address list-building efforts, we have not audited claims made in the Department's response or elsewhere regarding potential cost savings from innovations for the 2020 Census.

The Census Bureau, Office of Management and Budget, and U.S. Department of Transportation each also provided us with technical comments, which we incorporated as appropriate.



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We are sending copies of this report to the Secretary of Commerce, the Undersecretary of Economic Affairs, the Director of the U.S. Census Bureau, the Acting Director of the Office of Management and Budget, the Secretary of Transportation, and the appropriate congressional committees. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report please contact me at (202) 512-2757 or [goldenkoffr@gao.gov](mailto:goldenkoffr@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix II.



Robert Goldenkoff  
Director  
Strategic Issues

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*List of Requesters*

The Honorable Jim Jordan  
Ranking Member  
Committee on Oversight and Government Reform  
House of Representatives

The Honorable Gerald E. Connolly  
Chairman  
The Honorable Mark Meadows  
Ranking Member  
Subcommittee on Government Operations  
Committee on Oversight and Government Reform  
House of Representatives

The Honorable Jamie Raskin  
Chairman  
The Honorable Chip Roy  
Ranking Member  
Subcommittee on Civil Rights and Civil Liberties  
Committee on Oversight and Government Reform  
House of Representatives

# Appendix I: Comments from the Department of Commerce



UNITED STATES DEPARTMENT OF COMMERCE  
The Secretary of Commerce  
Washington, D.C. 20230

October 4, 2019

Mr. Robert Goldenkoff  
Director, Strategic Issues  
U.S. Government Accountability Office  
441 G Street, NW  
Washington, DC 20548

Dear Mr. Goldenkoff:

The U.S. Department of Commerce appreciates the opportunity to comment on the U.S. Government Accountability Office (GAO) draft report titled "2020 Census: Actions Needed to Improve Census Bureau's Process for Working with Governments to Build Address List" (GAO-20-17).

The GAO was asked to review the status of the Local Update of Census Addresses (LUCA) operation, including its effect on other operations, as well as LUCA's overall effectiveness and necessity. The draft report examines: (1) LUCA's status and its likely effect on 2020 field operations; and (2) the considerations the Bureau and other stakeholders could use to reexamine LUCA for 2030. The Census Bureau believes LUCA is a useful operation to ensure a high-quality address list, which is an essential element for the census.

The GAO offered eight recommendations in the draft report, focused on future address list development. We appreciate these recommendations, and we will carry them forward into planning for the 2030 Census. Once the final report is issued, we will formally document our planned actions to respond to the suggested improvements to LUCA operations.

The Census Bureau's approach to address list development has consisted of a series of operations that were conducted throughout the decade, including the following:

- Incorporating design changes based on evaluations that the Census Bureau conducted of previous LUCA operations following the 2000 Census and 2010 Census.
- Incorporating address and spatial data from tribal, state, and local governments earlier in the decade that provided a critical validation and enhancement of the Master Address File/Topologically Integrated Geographic Encoding and Reference (MAF/TIGER) Database. Between 2013 and 2018, partner governments submitted nearly 107 million address records. More than 99.5% of those records matched to the MAF. In addition, partners submitted more than 75 million address points that were either new or that enhanced existing point locations in TIGER. More than 196,000 miles of roads were added to TIGER using data submitted in partner files.

Mr. Robert Goldenkoff  
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- Adding 5.5 million new addresses to the Master Address File since 2010 by using the U.S. Postal Service's Delivery Sequence File as a primary source of address updates.
- Successfully implementing In-Office Address Canvassing to use satellite imagery and existing geospatial data to validate 65 percent of the Nation's addresses in office and achieve unprecedented savings of approximately \$185 million.

These efforts, and in particular, In-Office Address Canvassing allowed the Census Bureau to open only 39 offices and hire less than 40,000 people to conduct in-field canvassing of the 35% of addresses that were sent to the field for validation. This operation is a fraction of the 151 offices and the hiring of approximately 150,000 people needed to validate the address list in preparation for the 2010 Census. The projected total cost of In-Field Address Canvassing for the 2020 Census is currently less than \$120 million, avoiding approximately \$240 million in costs had all addresses been sent for in-field validation. When factoring the cost of In-Office Address Canvassing of approximately \$55 million, net cost avoidance for Address Canvassing amounts to approximately \$185 million. The Census Bureau could have avoided even more costs; however, in 2017, it was forced to react to budget reductions. An important component of the In-Office Address Canvassing operation was eliminated, resulting in a larger number of addresses being sent to In-Field Address Canvassing.

The report is focused on LUCA operations and the findings about the costs associated with LUCA address validation, which is a part of the multiple initiatives by the Census Bureau to increase the accuracy of the address list. The Census Bureau's goal was to validate all partner submitted addresses during In-Office Address Canvassing. However, the number of addresses submitted far exceeded the estimates. For that reason, the Census Bureau decided that any LUCA-submitted addresses that were within blocks already designated for In-Field Address Canvassing (i.e., blocks experiencing growth) would be provisionally accepted and validated during In-Field Address Canvassing, to further ensure the quality of the address list.

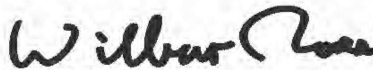
Additionally, the Census Bureau provisionally added 1.6 million partner-submitted addresses that were within blocks designated for In-Office Address Canvassing. These were not validated during In-Office Address Canvassing and will be included in the enumeration universe. The reason for this is to ensure we do not gratuitously delete partner-provided addresses that are potentially occupied housing units, which further ensures the accuracy and coverage of the census. If one considers that approximately 61% of partner-submitted addresses that were reviewed during In-Office Address Canvassing were accepted and 39% were rejected, then approximately 976,000 of the 1.6 million partner submitted addresses are likely to be good addresses that will be enumerated.

Mr. Robert Goldenkoff  
Page 3

We are, therefore, confident these efforts have supported the ultimate goal for the 2020 Census and LUCA, which is to facilitate an accurate census by permitting tribal, state, and local partners with the opportunity to update the Census Bureau's address list.

Thank you for your consideration of these comments.

Sincerely,



Wilbur Ross

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## Agency Comment Letter

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### Text of Appendix I: Comments from the Department of Commerce

#### Page 1

October 4, 2019

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## Page 2

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Sincerely,

Wilbur Ross



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# Appendix II: GAO Contact and Staff Acknowledgments

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## GAO Contact

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