



Testimony

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2000 CENSUS

Local Address Review Program Has Had Mixed Results to Date

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2000 Census: Local Address Review Program Has Had Mixed Results to Date

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss the Census Bureau's implementation of the Local Update of Census Addresses (LUCA) program. As you are aware, in 1994 Congress required the Bureau to develop a local address review program in order to give local and tribal governments greater input into the Bureau's address list development process.¹ LUCA gives local and tribal governments the opportunity to review the accuracy and completeness of the Bureau's address information for their respective jurisdictions, and suggest corrections where warranted.

The success of LUCA is important because a high-quality census begins with an accurate address list and precise maps. Together, they help ensure that (1) questionnaires are properly delivered; (2) unnecessary and costly follow-up efforts at vacant or nonexistent residences are reduced; and (3) the correct portions of the population are counted in their proper locations, which is the basis of congressional reapportionment and redistricting.

LUCA's overall impact on the accuracy and completeness of the address list will not be fully known until after the census, when the Bureau will have completed additional verification procedures and can evaluate the accuracy and completeness of the address list. Therefore, as agreed with the Subcommittee, my statement today focuses on two initial measures of how well LUCA is working: (1) the Bureau's operational experience to date in implementing LUCA, and (2) local governments' views of the adequacy of local resources to conduct LUCA and of the quality of materials and assistance the Bureau has provided.

Our views are based on our examination of those jurisdictions with city-style address areas; that is, jurisdictions where the U.S. Postal Service uses house-number and street-name addresses for most mail delivery. Because this program was initiated in 1998, the Bureau refers to it as "LUCA 1998." According to the Bureau, about 80 percent of the nation's housing units are located within city-style jurisdictions.

We obtained information on the Bureau's implementation of LUCA by interviewing Bureau officials and analyzing Bureau data on local governments' participation in the program and the number of address list changes they suggested. We obtained local governments' views of LUCA by

¹Census Address List Improvement Act, P.L. 103-430, Oct. 31, 1994.

surveying a stratified random sample of 150 city-style jurisdictions of varying sizes. Of these, 128 jurisdictions responded, yielding a response rate of 85 percent. Our survey results are generalizable to the 8,248 local governments that were sent LUCA 1998 materials and were participating in LUCA at the time our sample was drawn in January 1999. It is important to keep in mind that the data we present on the perceptions of local governments are estimates that are based on the results of our survey. We describe our survey methodology more fully in attachment I.

In brief, the Bureau invited nearly 16,675 local governments to participate in LUCA 1998. Of these, 6,673 (40 percent) returned material to the Bureau as of August 1999. The remaining jurisdictions did not provide the Bureau with any input. The Bureau does not know whether these jurisdictions (1) did not review the census address list, or (2) did review the list and decided not to respond to the Bureau. Local governments suggested about 7.74 million changes to the Bureau's address list, of which about 5.4 million were suggested additions. The results of our survey suggest that many local governments appeared to be satisfied with the quality of the materials and assistance the Bureau provided. However, a number of jurisdictions rated these items, and the availability of local resources to review LUCA materials, less favorably.

Background

To develop the address list for the 2000 Census, the Bureau is using a series of operations, including LUCA. LUCA is one of only two components of the Bureau's address list development program that gives local governments direct input into the Bureau's address database.

For LUCA 1998, the Bureau sent participating governments address list information and associated maps for their jurisdictions. Local governments had the option of reviewing either paper address lists or electronic address lists. Maps were available only in paper format. The local governments were to review this information for accuracy and completeness, and suggest additions, deletions, corrections, and other changes, where appropriate, to the Bureau. Bureau personnel were then to verify these changes—generally by visiting each address in question—and provide feedback to LUCA participants on the Bureau's actions.

Should local governments disagree with the Bureau's final decisions, they can appeal the Bureau's actions to an independent office established by the Office of Management and Budget. Appeals officers—who can be detailed or temporary federal employees, as well as contractors that have received special training—are to base their decisions on the validity of the map or address references supplied by the Bureau and local governments.

The appeals process for LUCA 1998 has not yet begun. All appeals are to be resolved no later than January 14, 2000.

LUCA was tested during the dress rehearsal for the 2000 Census that was conducted in Sacramento, CA; Columbia, SC, and 11 surrounding counties; and Menominee County in Wisconsin, including the Menominee American Indian Reservation. In our testimony on the status of the dress rehearsal before the Subcommittee in March 1998, we reported that LUCA encountered various implementation problems that adversely affected local governments' review efforts.³ They included problems with the accuracy and completeness of the Bureau's address list and maps, as well as with the level of Bureau assistance. Following the dress rehearsal, Bureau officials said the Bureau took steps to address some of these shortcomings in time for LUCA 1998.

The Bureau's Operational Experience in Implementing LUCA 1998

Although the Bureau invited all 16,675 jurisdictions with city-style addresses to participate in LUCA 1998, as shown in table 1, most did not provide the Bureau with any input. Indeed, according to Bureau data, of the 16,675 jurisdictions eligible for LUCA 1998, 9,796 (about 59 percent) volunteered to participate in the program and signed the Bureau's confidentiality agreement, which is a prerequisite for reviewing the Bureau's address lists. However, 1,017 initial participants decided to drop out of the program, and the Bureau ultimately mailed LUCA material to 8,779 local governments. Of these, 5,791 reviewed and annotated at least a portion of the address material, and 882 returned unannotated material. Thus, of the original universe of 16,675 jurisdictions, 6,673 (40 percent) returned something to the Bureau.

Table 1: Local Governments' Participation in LUCA 1998

Eligible jurisdictions	16,675
Jurisdictions that returned confidentiality agreements	9,796
Jurisdictions that were shipped materials	8,779
Jurisdictions that returned annotated materials	5,791
Jurisdictions that returned unannotated materials	882

Source: U.S. Census Bureau.

Bureau officials said that they were generally pleased with LUCA 1998 participation rates, in part because they exceeded figures from a similar program during the 1990 Census. Still, the Bureau cannot at this time determine the extent to which LUCA 1998 has contributed to the accuracy of the Bureau's address list. This is because important data, such as the

³Decennial Census: Preparations for Dress Rehearsal Underscore the Challenges for 2000 (GAO/T-GGD-98-84, Mar. 26, 1998).

number of housing unit addresses they actually reviewed, are unavailable. Also, 2,106 local governments were shipped LUCA materials but did not provide the Bureau with any input. The Bureau does not know whether these jurisdictions (1) did not review the census address list, or (2) did review the list and decided not to respond to the Bureau.

The Number of Changes Suggested by Local Governments

The LUCA 1998 participants that furnished the Bureau with updated address list information suggested a total of about 7.74 million changes to the census address list, according to Bureau data (see table 2).

Table 2: Address List Changes Suggested by LUCA 1998 Participants

Type of suggested change	Number
Address additions	5,384,864
Address deletions	427,626
Other (e.g., corrections, geographic changes, etc.)	1,931,559
Total	7,744,049

Source: U.S. Census Bureau.

As originally planned, the Bureau was to confirm the validity of these changes as part of a subsequent address list development operation called block canvassing, which took place between January and May 1999. In this operation, temporary Bureau employees were to verify all city-style addresses by systematically traveling each street in an assigned area, comparing their on-site inspections with the address list, and thus identifying incorrect, missing, nonexistent, or duplicate addresses. Addresses that were not accepted by the Bureau during block canvassing were to be rechecked during a subsequent on-site inspection operation called “reconciliation.”

However, according to Bureau officials, the Bureau underestimated the amount of time it would take to get agreements from local governments to participate in the program and then to prepare address lists for local governments’ review. As a result, LUCA 1998 took several months longer to complete than the Bureau initially expected. In turn, a number of changes were submitted too late to be included in block canvassing and instead will be verified during the reconciliation process.

For example, of the approximately 5.4 million suggested additions, the Bureau determined that about 2.76 million were valid—2.0 million during block canvassing and another 760,000 from matching LUCA 1998 submissions with block canvassing results. The Bureau has not accepted about 2.2 million of the suggested address additions. This figure includes about 400,000 suggested additions checked during block canvassing. It also includes about 1.8 million additions that were not submitted in time to be

included in block canvassing, and that were not independently found by the Bureau during block canvassing. According to Bureau officials, these 2.2 million addresses are to be included in its reconciliation operation.

LUCA Participants Had Mixed Perceptions of the Program

In addition to the Bureau's experience in implementing LUCA 1998, the degree to which local governments were satisfied with the LUCA process is another early indicator of how well the program is working. We surveyed LUCA 1998 participants on their views of the (1) availability of local resources to review LUCA materials; (2) adequacy of LUCA time frames; (3) user-friendliness of LUCA address lists and maps, and the media on which they were provided; (4) adequacy of Bureau support; and (5) overall completeness and accuracy of LUCA address lists and maps. While many local governments generally gave favorable reviews to the materials and assistance the Bureau provided to them, a number of jurisdictions held less positive views. Further, the availability of human resources to review LUCA materials appeared to be particularly problematic for many local governments.

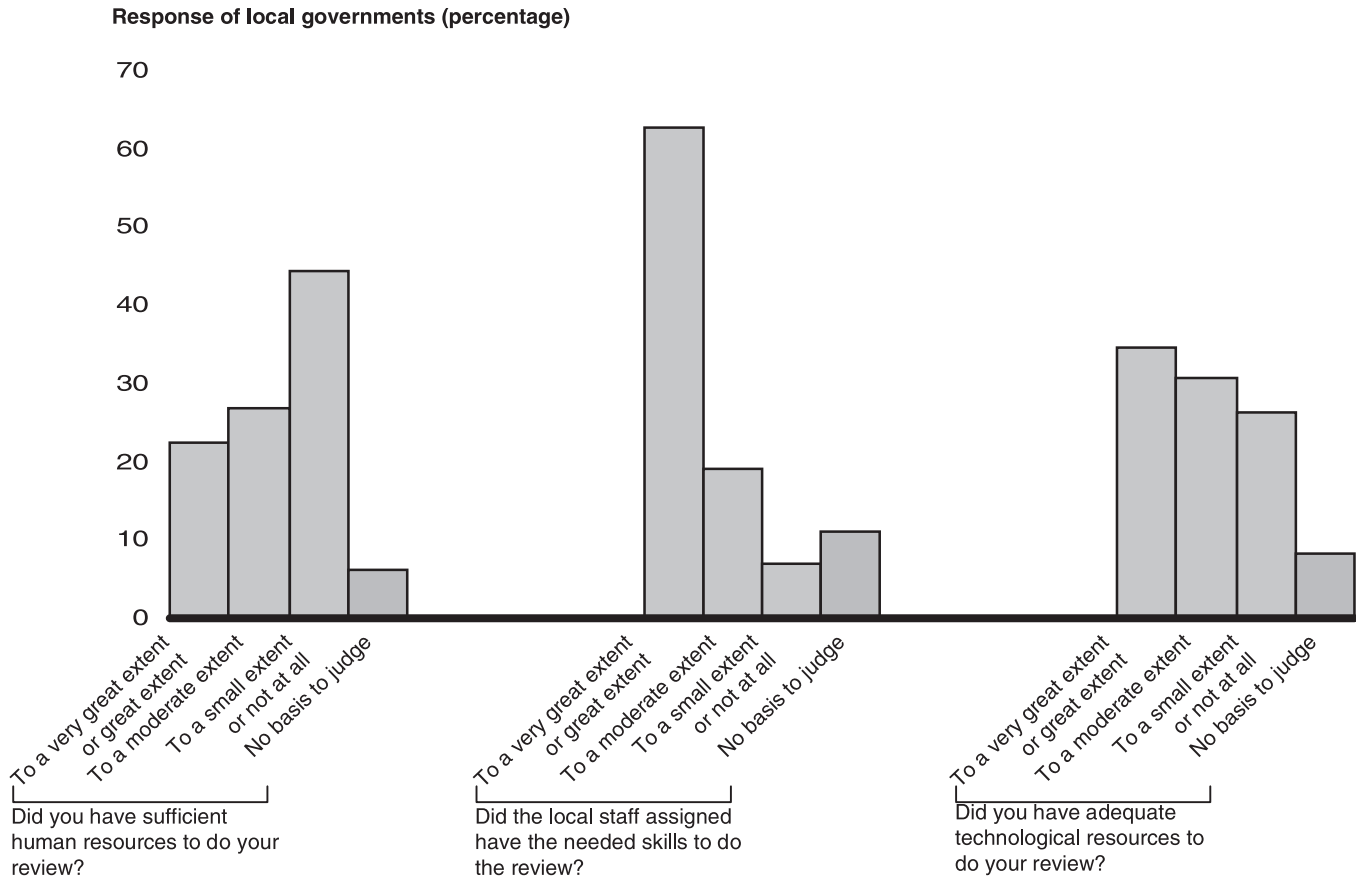
Availability of Local Resources to Review LUCA Material

As shown in figure 1, about 44 percent of local governments participating in LUCA rated the human resources in their jurisdiction as not at all sufficient or only sufficient to a small extent. In contrast, only about 23 percent indicated that their human resources were sufficient to a very great or great extent. About 27 percent indicated that they were sufficient to a moderate extent.

On the other hand, our survey suggests that the local staff that were available had sufficient skills to review the LUCA material. Indeed, about 63 percent reported that the local staff assigned to LUCA had, to a great or very great extent, the skills needed for LUCA reviews, while 19 percent replied "to a moderate extent."

In terms of the sufficiency of local governments' technological resources to review addresses, the results were mixed. Just over a third of local governments indicated that, to a great or very great extent, their technological resources were sufficient, while about a quarter reported that their resources were sufficient to a small extent or not at all.

Figure 1: Extent to Which Local Governments Had Sufficient Resources to Review LUCA Materials



Note: Percentages in figure have confidence intervals of less than ± 12 percent.

Source: GAO survey of LUCA 1998 participants.

The availability of local resources appeared to be a factor in whether or not local governments fully reviewed the addresses and maps for their jurisdictions. About 14 percent of the local governments reported conducting a partial review of the Bureau’s address list for their jurisdiction, while about 6 percent reported partially reviewing the Bureau’s maps. Of those local governments that partially reviewed address lists, most cited limited resources for doing so. About 9 percent reported that they did not review the address lists, while about 16 percent did not review the maps.

Local governments that reported partial reviews typically focused their efforts on those areas that were new or changed since 1990, or had experienced high growth. Some local governments also limited their

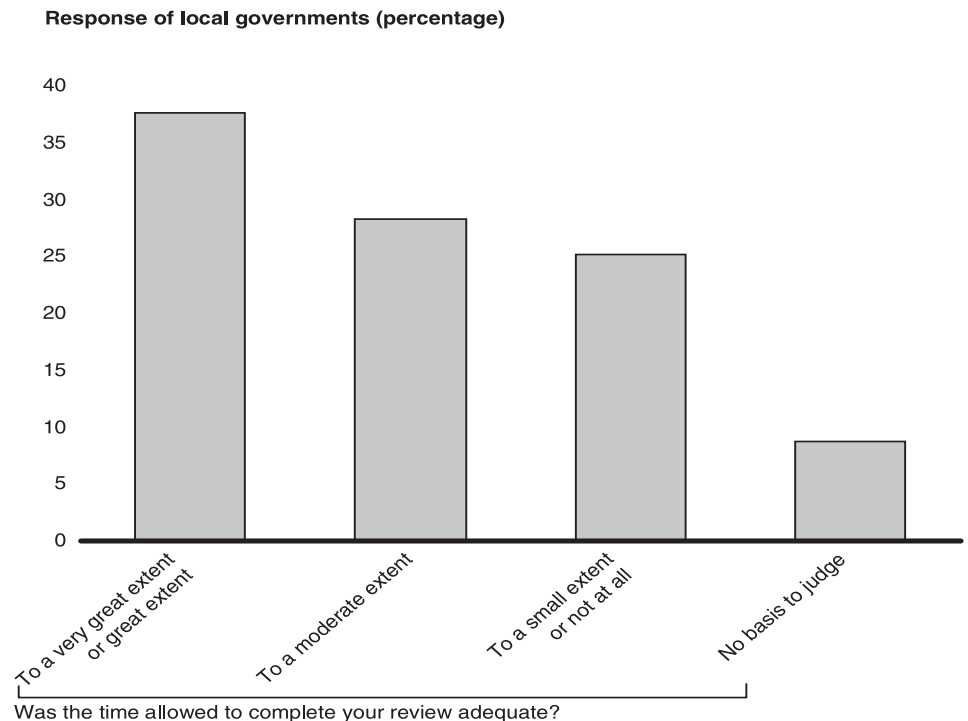
reviews to those areas where the local government's count of housing units differed from the Bureau's housing count, or to areas with multiple-family dwellings. According to Bureau officials, during training provided to local governments, the Bureau recommended that local jurisdictions conduct their reviews along these lines if they could not conduct full reviews.

Overall, the survey results suggest that LUCA can be a burdensome process for local governments. Indeed, about 71 percent of respondents indicated that the LUCA workload was much or somewhat more than they had expected, while 24 percent said it was about what they expected, and 5 percent reported that the workload was somewhat or much less than expected.

Adequacy of LUCA Time Frames

The Bureau gave local governments 3 months to review LUCA material. As shown in figure 2, about 38 percent of local governments reported that this time frame was adequate to a very great or great extent, while about 25 percent indicated that it was adequate to a small extent or not at all.

Figure 2: Extent to Which Local Governments Found the Time frame to Complete Their LUCA Reviews Adequate



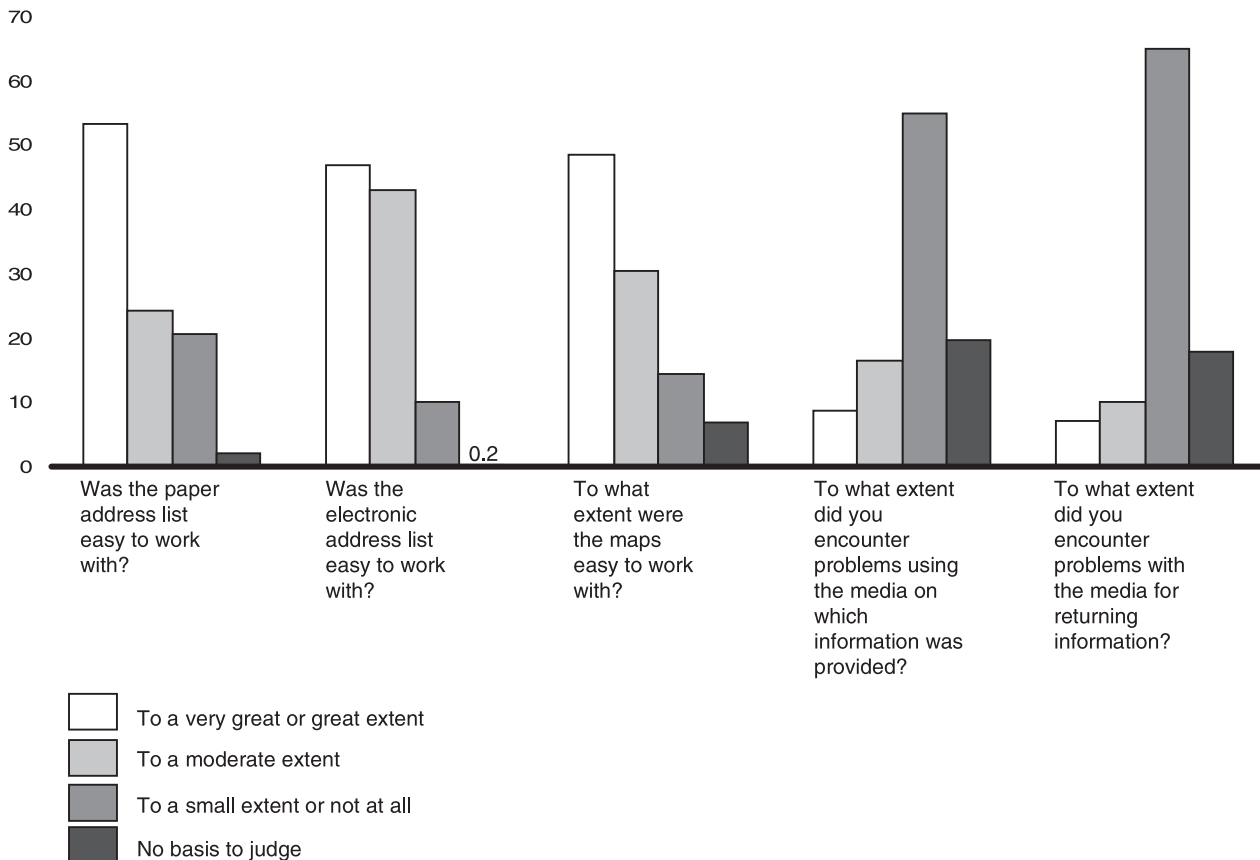
Note: Percentages in figure have confidence intervals of less than ± 12 percent.
Source: GAO survey of LUCA 1998 participants.

User-friendliness of LUCA Media

Many local governments had positive views of the user-friendliness of LUCA address lists and maps, and the paper or electronic media on which they were provided. As shown in figure 3, roughly half of the local governments reported that both the Bureau's address lists and maps were easy to work with to a great or very great extent. Likewise, most local governments reported that they encountered few or no problems with either the electronic or paper media on which the information was provided, nor the media for returning the information.

Figure 3: Extent to Which Local Governments Found LUCA Media Easy to Work With

Response of local governments (percentage)



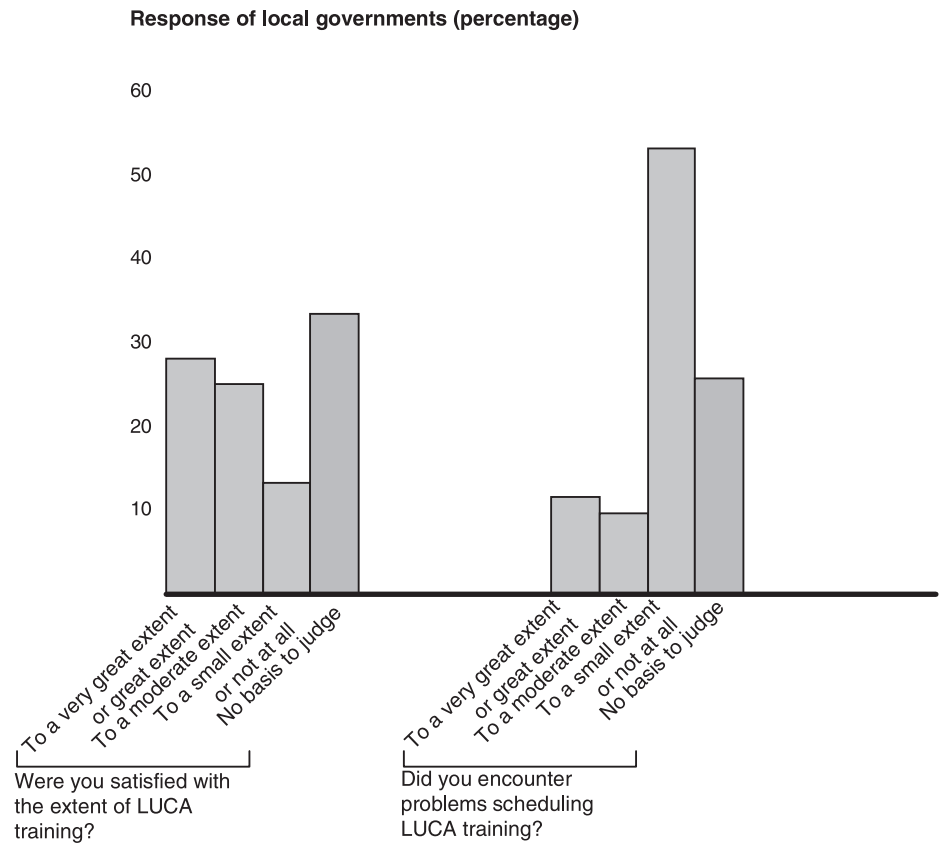
Note: Percentages in figure have confidence intervals ranging from ± 6 percent to ± 18 percent.
 Source: GAO survey of LUCA 1998 participants.

Adequacy of Bureau Support

To help local governments in their LUCA reviews, the Bureau provided various forms of support, such as formal training. Help was also available through different sources, such as reference manuals and direct Bureau assistance.

With regard to training, figure 4 shows that about 28 percent of local governments were satisfied with the extent of LUCA training to a very great or great extent, while about 13 percent were satisfied to a small extent or not at all. Local governments gave more favorable reviews to their ability to schedule LUCA training.

Figure 4: Extent to Which Local Governments Found LUCA Training to Be Adequate



Note: Percentages in figure have confidence intervals of less than ± 12 percent.
 Source: GAO survey of LUCA 1998 participants.

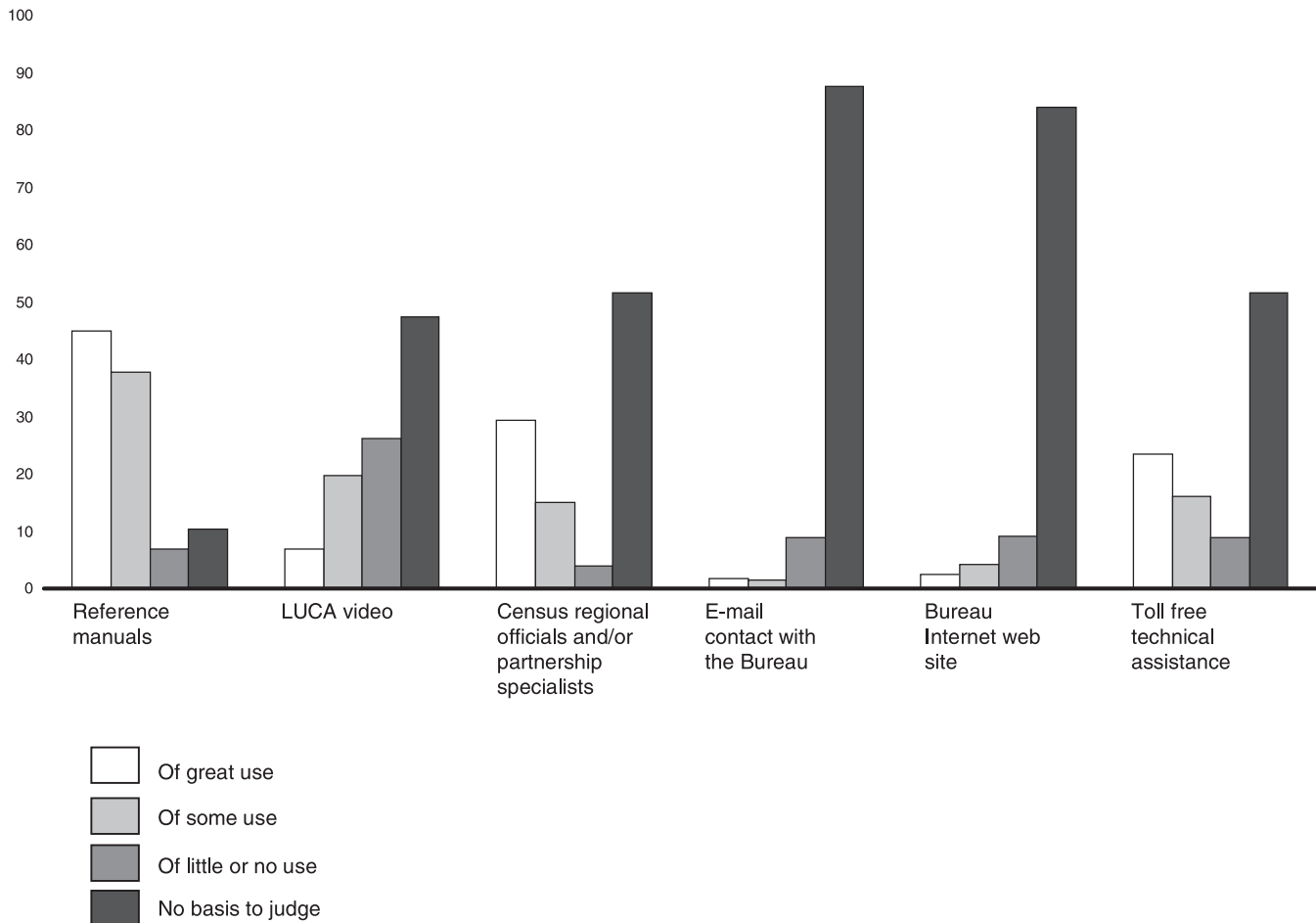
The Bureau made available a variety of resources that local governments could turn to for help in completing their reviews. The sources of information ranged from formal workshops and reference manuals, to a video. As shown in figure 5, it appears that LUCA reference manuals were

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used more than any other source of information. Moreover, 45 percent of localities found the manuals to be of great use. Local governments appear to have turned to the other sources of information, such as the Bureau's Internet web site and e-mail contact with the Bureau far less frequently, and reported finding them to be less useful.

Figure 5: Local Governments' Views of the Usefulness of Bureau Assistance

Response of local governments (percentage)



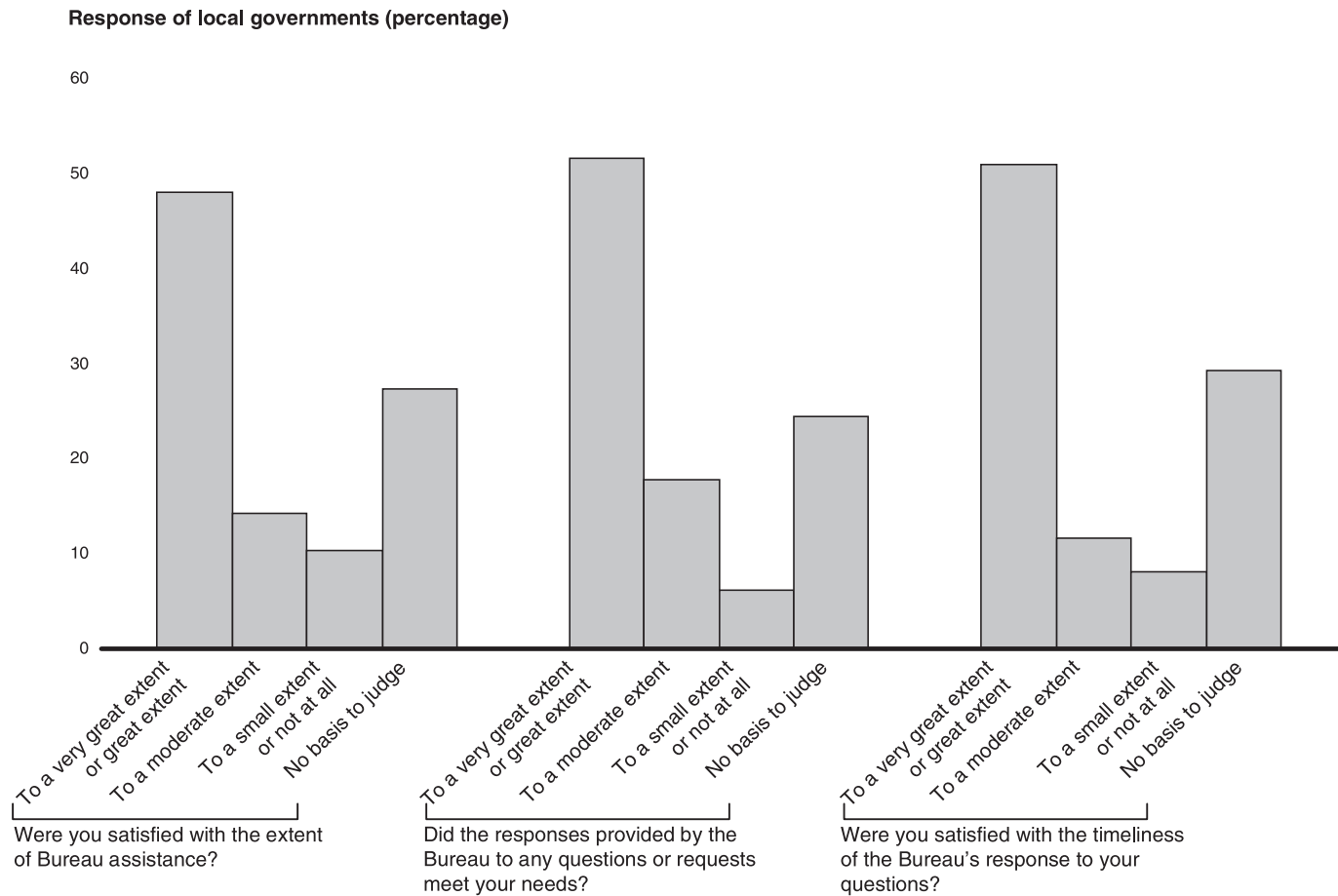
Note: Percentages in figure have confidence intervals of less than ± 12 percent.

Source: GAO survey of LUCA 1998 participants.

Overall, as shown in figure 6, about half of the localities appeared to be satisfied with various aspects of the Bureau's assistance. For example, about 48 percent indicated that they were satisfied with the extent of

Bureau assistance to a great or very great extent, while about 52 percent reported that the Bureau's responses to their questions met their needs to a great or very great extent. Local governments gave similar reviews to the timeliness of the Bureau's response to their questions.

Figure 6: Extent to Which Local Governments Were Satisfied With the Bureau's Assistance Overall



Note: Percentages in figure have confidence intervals of less than ± 12 percent.
 Source: GAO survey of LUCA 1998 participants.

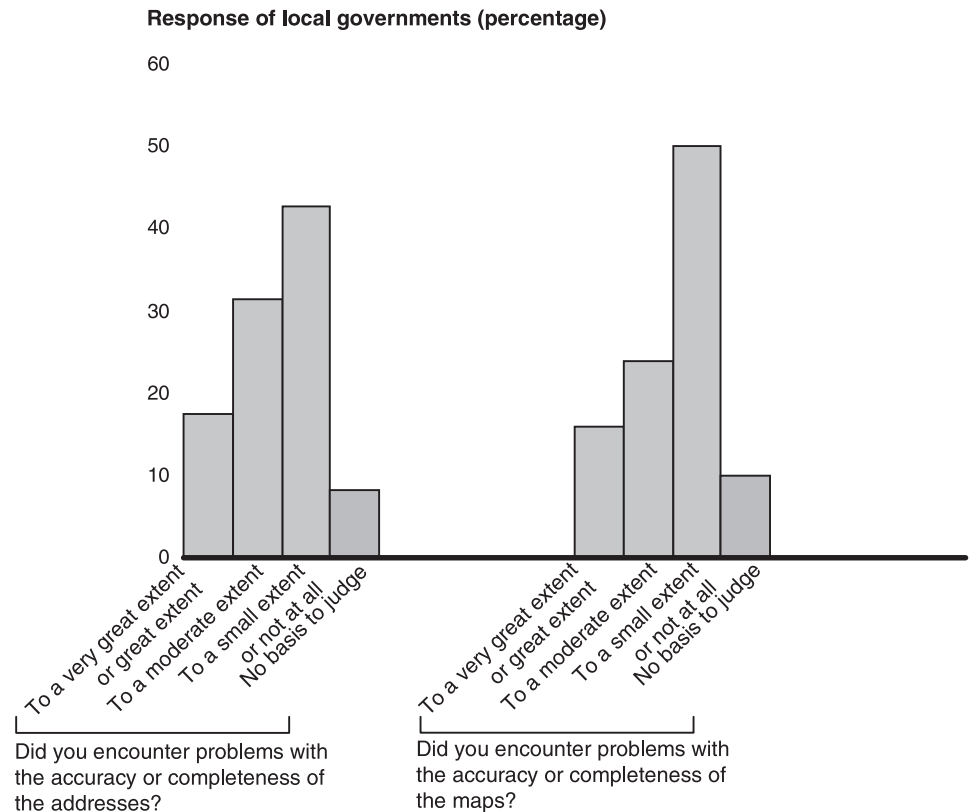
Overall Completeness and Accuracy of LUCA Address Lists and Maps

Local governments gave the accuracy of the Bureau's address lists and maps mixed reviews. For example, as can be seen in figure 7, about 43 percent indicated they encountered few problems with the accuracy and completeness of the address lists, while, about 18 percent reported encountering problems to a very great or great extent. Somewhat less problematic was the perceived completeness and accuracy of the Bureau's

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maps, where about 50 percent said that they encountered problems to a small extent or not at all, compared with 16 percent who indicated encountering problems to a very great or great extent.

Figure 7: Local Governments' Views of the Accuracy and Completeness of Bureau Address Lists and Maps



Note: Percentages in figure have confidence intervals of less than ± 12 percent.
 Source: GAO survey of LUCA 1998 participants.

In summary, Mr. Chairman, the overall results to date of LUCA 1998 appear to be mixed. On the one hand, many local governments said they were satisfied with specific aspects of the materials and assistance the Bureau provided to them. On the other hand, other components, such as training, received less favorable reviews. Moreover, LUCA may have stretched the resources of local governments, and overall, the LUCA 1998 workload was greater than most local governments had expected. In terms of participation rates and suggested changes, the full impact that these indicators had on the overall completeness and accuracy of the Bureau's address list will not be known until well after Census Day.

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We will continue tracking the LUCA program as part of our overall review of the 2000 Census, and will keep Congress informed of the results of our work.

Mr. Chairman, this concludes my prepared statement. I would be pleased to respond to any questions you or other Members of the Subcommittee may have.

Contact and Acknowledgement

For further information regarding the testimony, please contact J. Christopher Mihm at (202) 512-8676. Individuals making key contributions to this testimony included Tom Beall, Robert Goldenkoff, Marcia McWreath, Anne Rhodes-Kline, and Lynn Wasielewski.

Scope and Methodology

To meet our objective of obtaining information on the Bureau's experience to date in implementing the Local Update of Census Addresses (LUCA) program, we interviewed officials in the Bureau's Directorate for Decennial Census, including officials in the Geography Division, and in the Bureau's Regional Census Center in Dallas, TX. We asked these officials about the Bureau's time frames for providing local governments with address lists and maps for review, reasons why the Bureau's schedule was revised for completing the program, difficulties encountered, and lessons learned from the Bureau's dress rehearsal. We also asked Geography Division officials about lessons they had learned for improving the program for future Bureau survey work.

We also requested and obtained data from Bureau Geography Division officials on participation rates in the program, including data on the number of eligible entities to participate in the program, the number of entities that signed confidentiality agreements to participate in the program, and the number that were provided address lists and/or maps for review. We also requested and obtained data on the number of entities that returned annotated and unannotated address lists and/or maps.

To meet our objective of obtaining information on local governments' LUCA participation experience, we faxed a questionnaire to a stratified, random probability sample of 150 local governments that were participating in the Census Bureau's 1998 LUCA city-style address operation (LUCA 1998).

We drew our sample from a database, prepared for us by the Bureau, of local governments participating in LUCA 1998. We defined participants as those local governments that had signed confidentiality agreements, had been shipped at least some of the material needed to perform their review, and had not subsequently indicated to the Bureau that they had decided to drop out of the review process.

This database identified 8,248 local governments that were participating in LUCA 1998 in January 1999. This constituted the population from which we drew our sample. Each responding local government was subsequently weighted in the analysis to account statistically for all the members of this population, including those that were not selected.

As shown in table I.1, the population was stratified into eight groups based on the number of geocoded residential address records taken from the Bureau's master address file and delivered to the local government for its review. Also shown in table I.1 is the sample allocation for each stratum

and the number of local governments that provided usable, completed questionnaires.

Table I.1: Sample Allocation and Usable Returns, by Strata

Number of address records	Number of local governments in sample	Number of local governments providing usable returns
500,000 or more	17	17
100,000–499,999	31	28
50,000–99,999	10	7
25,000–49,999	11	10
10,000–24,999	17	13
5,000–9,999	14	12
1,000–4,999	32	28
0–999	18	13
Total	150	128

The majority of items on the questionnaire were closed-ended, meaning that, depending on the particular item, respondents could choose one or more response categories or rate the strength of their perception on a 5-point extent scale. The remaining items were in an open-ended format; i.e., the respondent writes in the answer. We analyzed the open-ended responses by sorting them into categories based on the content of the responses.

After designing our questionnaire, we pretested it with local governments in the Washington, D.C., and Dallas, TX, areas. For each local government in our sample, we contacted the individual identified on the Bureau’s database as the local liaison for the LUCA 1998 review. Based on our conversation with this contact person, we sent our questionnaire to this individual or a person designated by this individual as being the most appropriate person to respond to our questionnaire for the local government. We sent out our questionnaires between February 22, 1999, and March 23, 1999.

We received usable returns from 85 percent of the total eligible sample. Although we did not test the validity of the local governments’ responses or the comments they made, we took several steps to check the quality of our survey data. Specifically, we (1) reviewed and edited completed questionnaires, (2) made internal consistency checks on selected items, and (3) checked the accuracy of data entry on returned questionnaires.

The overall survey results are generalizable to the 8,248 local governments that were participating in LUCA 1998 as of January 1999. Because we sampled a portion of local governments, all results are estimates and subject to some uncertainty or sampling error, as well as nonsampling

error. Depending on the particular analysis being performed, percentages reported for the entire sample have confidence intervals generally ranging from ± 2 to ± 18 at the 95 percent confidence level. In other words, if we had surveyed all the local governments, we are 95 percent confident that the result obtained would not differ from our sample estimate, in the most extreme case, by more than ± 18 percent.

Our choice of sample size was adequate to support our objective of obtaining simple, overall estimates of participating local governments' views of their LUCA 1998 experience. However, this sample size is generally not large enough to provide the degree of statistical sensitivity that would be preferable for engaging in more detailed analyses of differences between various groupings of local governments or relationships between responses to two or more questionnaire items.

We conducted our work between September 1998 and September 1999 in accordance with generally accepted government auditing standards.

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