

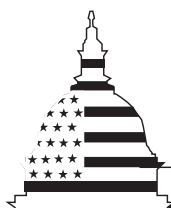
GAO

Report to the Chairman, Subcommittee
on the Census, Committee on
Government Reform, House of
Representatives

September 1999

2000 CENSUS

**Analysis of Fiscal Year
2000 Amended Budget
Request**



G A O

Accountability * Integrity * Reliability

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Abbreviations

ACE	Accuracy and Coverage Evaluation
FTE	full-time equivalent
ICM	Integrated Coverage Measurement
LCO	Local Census Office
MOU	Memorandum of Understanding
TQA	Telephone Questionnaire Assistance



United States General Accounting Office
Washington, D.C. 20548

Accounting and Information
Management Division

B-283148

September 22, 1999

The Honorable Dan Miller
Chairman
Subcommittee on the Census
Committee on Government Reform
House of Representatives

Dear Mr. Chairman:

The decennial census is the nation's most comprehensive and expensive data-gathering program. The Constitution requires a decennial census of the population in order to apportion seats in the House of Representatives. Public and private decisionmakers also use census data on population counts and social and economic characteristics for a variety of purposes. Since 1970, the Census Bureau has used essentially the same methodology to count the vast majority of the population during the decennial census. The bureau develops an address list of the nation's households and mails census forms (questionnaires) to those households asking the occupants to mail back the completed forms. The bureau hires temporary census takers, known as enumerators, by the hundreds of thousands to gather the requested information for each nonresponding household.¹

For the 2000 census, the bureau planned to augment the traditional census methodology with statistical estimation to develop a unified census count. In November 1997, in the Department of Commerce and Related Agencies Appropriations Act for 1998, the Congress questioned the constitutionality of using statistical sampling and directed the bureau to plan to implement a census in 2000 without using statistical methods. The Census Bureau reported to the Congress on possible components in a traditional census plan in April 1998. However, the bureau did not begin detailed budgeting for a nonsampling-based census until after the Supreme Court ruled that the Census Act² prohibited the use of statistical sampling for purposes of determining the population count used to apportion the House of Representatives.

¹The bureau refers to this activity as "nonresponse follow-up."

²13 U.S.C. 195.

As recently as August 1997, the bureau estimated that without sampling, the cost of the 2000 census would increase by \$675 million to \$800 million and would be less accurate than the 1990 census. Following the Supreme Court's decision, in June 1999, the bureau requested an increase of over \$1.7 billion to its original fiscal year 2000 budget request of nearly \$2.8 billion. Your office advised us that the information provided by the bureau did not provide a satisfactory explanation of how this amended budget request was developed and the reasons for the \$1.7 billion requested increase.

As a result of this greater than expected increase in the bureau's fiscal year 2000 budget and your need for additional information, you requested that we (1) provide an overall analysis of the key changes in assumptions resulting in the \$1.7 billion requested increase, (2) provide details on the components of this increase and which changes, according to the bureau, are related and which are not related to the inability to use statistical sampling, and (3) describe the process the bureau used for developing the increase in the original fiscal year 2000 budget request and the amended budget request. This report provides a summary of the information presented at our September 15, 1999, briefing to you and the House and Senate appropriations subcommittees. The briefing slides in appendix I have been updated to incorporate additional information you requested at the briefing as well as information subsequently provided by the bureau. Also at your request, we will shortly be issuing a status report on key census-taking operations and preparation for the 2000 census.

Results in Brief

We found that the net \$1.7 billion requested increase in the original fiscal year 2000 budget request of \$2.8 billion resulted primarily from changes in assumptions relating to a substantial increase in workload, reduced employee productivity, and increased advertising. Under the nonsampling design, census costs will increase because the bureau expects to follow up on more nonresponding households than for a sampling-based census and plans to use additional programs to improve coverage because it cannot rely on statistical methods to adjust for undercounting and other coverage errors.

The bureau assumes an increased workload because the housing units that the bureau expects to visit have increased from an estimated 30 million to 46 million. The 16 million increase includes visiting 12 million additional nonresponding housing units and 4 million additional housing units that the Postal Services says are vacant or nonexistent. Also contributing to the

workload increase are a number of programs that were not in the original budget. These programs are primarily aimed at improving the accuracy of the 2000 census through quality control operations, such as reinterviewing households that had been previously visited by an enumerator. However, it is unclear whether these additional programs will result in a 2000 census that is more accurate than the 1990 census. This increased workload, which increased costs for most bureau program activities, relates primarily to additional salaries, benefits, travel, data processing, infrastructure, and supplies.

Another key factor substantially increasing the fiscal year 2000 budget request is that the bureau reduced the assumed productivity of its temporary enumerator employees. The bureau reduced the assumed productivity of its enumerators by 20 percent between the original and amended budget requests—from 1.28 to 1.03 households per hour. This reduction relates to all the enumerator employees for nonresponse follow-up—both those employees to be hired to visit the 30 million nonresponding housing units in the original budget request as well as those for the 16 million additional housing units. The bureau did not provide any documented internal or external quantitative analysis or other analysis to support the initial or revised productivity rates. This reduction was primarily based on senior management judgments, which the bureau acknowledges are very conservative, about factors such as the uncertainty of hiring a sufficient number of quality temporary workers in a tight labor market.

Because of the assumed increase in workload and reduction in productivity, the total number of temporary field positions³ increased from 780,000 in the original budget to 1,350,000 in the amended budget request. The 570,000 new positions include 200,000 (35 percent) for following up on nonresponding households, 120,000 (21 percent) for enumerator activities such as counting people at homeless shelters, and 220,000 (38 percent) related to additional coverage improvement and quality control programs. (The remaining 6 percent is for various other positions.) This large number of positions is due in part to the expected substantial temporary employee turnover.

³The number of positions does not equal the number of staff required. Some positions last only a few weeks, and one person can fill more than one position.

The bureau also included nearly \$72 million of advertising in the amended budget request to increase public awareness and hopefully increase response rates for mailed questionnaires. However, the bureau's amended budget request did not assume any cost savings from the increased advertising dollars in the form of increased response rate and, accordingly, a reduced workload.

According to the bureau, about \$1.6 billion of this increase is related and \$100 million is not related to the inability to use statistical sampling. As discussed above, the additional costs primarily involve increased workload, reduced productivity, and increased advertising. The items unrelated to the sampling issue include costs not included in the original budget and revisions of prior estimates. For example, the bureau did not include \$52 million for rent and long distance telephone service in the original budget request.

The bureau developed its \$4.5 billion amended budget request for fiscal year 2000 using a cost model consisting of a series of interrelated software spreadsheets. The original and amended budget requests were developed using this cost model, with each estimate being developed independently using different versions of the cost model. The bureau derived the \$1.7 billion requested increase by calculating the net difference between the original budget request of \$2.8 billion and the amended budget request of \$4.5 billion.

Background

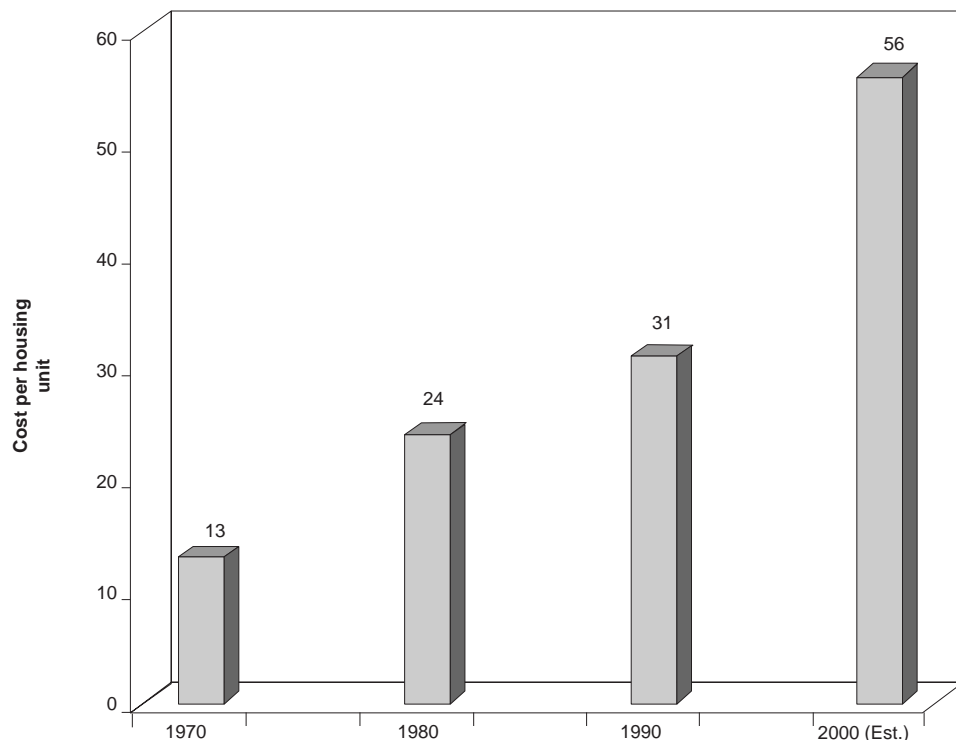
The President's fiscal year 2000 budget, which was submitted to the Congress on February 1, 1999, included nearly \$2.8 billion for the Census Bureau to perform the 2000 decennial census. This original budget request reflected the bureau's plan to gather information based in part on using statistical estimation for nonresponding households and to adjust for undercounting and other coverage errors. However, on January 25, 1999, the Supreme Court ruled that the Census Act prohibits the bureau from using sampling for purposes of congressional apportionment. According to the bureau, it must therefore enumerate an estimated 12 million additional nonresponding households and expand programs designed to address undercounting and limit other coverage errors. The bureau also plans to visit 4 million additional addresses for which the Postal Service has returned the questionnaire because it believes that the housing unit is vacant or nonexistent.

In light of the need for the additional enumeration, the bureau requested a substantial increase to its original budget request for fiscal year 2000—approximately \$1.7 billion—for a total budget of approximately \$4.5 billion. Thus, for purposes of apportionment, the 2000 census will be done similarly to those for the last several decades in which questionnaires are mailed to the majority of the nation's households asking the occupants to mail back the completed questionnaires.⁴ In addition, for the 2000 census, the bureau plans to incorporate statistical estimation for other purposes, such as providing states with information for redistricting. As part of the 2000 census, the bureau will allow the public to respond in a variety of new ways, such as through a toll-free telephone number, the Internet, and unaddressed questionnaires made available at public locations.

When compared to the 1970 census, the projected full-cycle cost per housing unit of the 2000 census will quadruple (in constant fiscal year 1998 dollars). As shown in figure 1, the cost will nearly double from the previous census (1990).

⁴Referred to as a traditional census.

Figure 1: Census Full-Cycle Cost per Housing Unit—Fiscal Years 1970 to 2000 (in constant fiscal year 1998 dollars)



Note: Cost per housing unit is based on the full-cycle cost of performing a decennial census. The 2000 decennial census cycle began the year after the 1990 decennial census and is estimated to end in 2003. Therefore, the cost per housing unit for the 2000 census is based on reported costs incurred for fiscal years 1991 through 1998, the fiscal year 1999 total enacted appropriations, the fiscal year 2000 amended budget request, and the bureau's estimate of costs for fiscal years beyond 2000. The 2000 census estimate assumes 119 million total households. The Gross Domestic Product (GDP) price index was used to adjust for inflation.

Source: GAO analysis of unaudited bureau data.

The accuracy of the 1990 census decreased compared to the 1980 census. Specifically, the net undercount for the 1990 census was estimated at 1.6 percent of the population (about 4 million persons) compared to 1.2 percent for the 1980 census. The bureau estimated that about 4.4 million persons were counted twice, and other improper inclusions, in 1990, while 8.4 million were missed. Moreover, the sum of these numbers—12.8 million—represents a minimum tally of gross errors since it does not include other errors, such as persons assigned to the wrong locations.

Scope and Methodology

We interviewed bureau officials who provided us with an overview of the budget formulation process for developing the \$4.5 billion amended budget request. Bureau officials provided us with copies of the cost models used to develop the original and amended budget requests. The \$1.7 billion requested increase represents the difference between the original and amended budget requests. Therefore, to ensure that the difference between the original and amended budget requests was supported by the two models, we reviewed the summarized output and structure of each model and verified the mathematical accuracy of the difference. We reconciled the output from these models to the budget request amounts to determine whether they mathematically agree with the original and amended budget requests.

We then isolated the differences in the models by the bureau's eight program activities or frameworks.⁵ After isolating the differences, we selected for further analysis cost increases/decreases and related changes in assumptions that contributed most to each framework's total net increase or otherwise warranted explanation. We focused our analysis on the "field data collection and support systems" program activity because nearly \$1.5 billion of the \$1.7 billion requested increase was related to this framework.

We obtained from the bureau documentation supporting or explaining the basis for the change in assumptions and how the increase/decrease related to the inability to use statistical sampling. The bureau categorized the components of the \$1.7 billion requested increase into those it considered related to the statistical sampling issue and those it considered to be unrelated. We did not conclude whether the bureau properly categorized the components of the \$1.7 billion requested increase as related and unrelated. We did not assess the efficiency or effectiveness of the bureau's plans to conduct the 2000 census or validate the bureau's data and assumptions used to develop the budget requests.

We performed our work in Washington, D.C., and at the bureau's headquarters in Suitland, Maryland, from June through September 1999 in accordance with generally accepted government auditing standards.

⁵The bureau's budget includes eight program activities, which are also referred to by the bureau as "frameworks."

Overall Observations on the Fiscal Year 2000 \$1.7 Billion Requested Increase

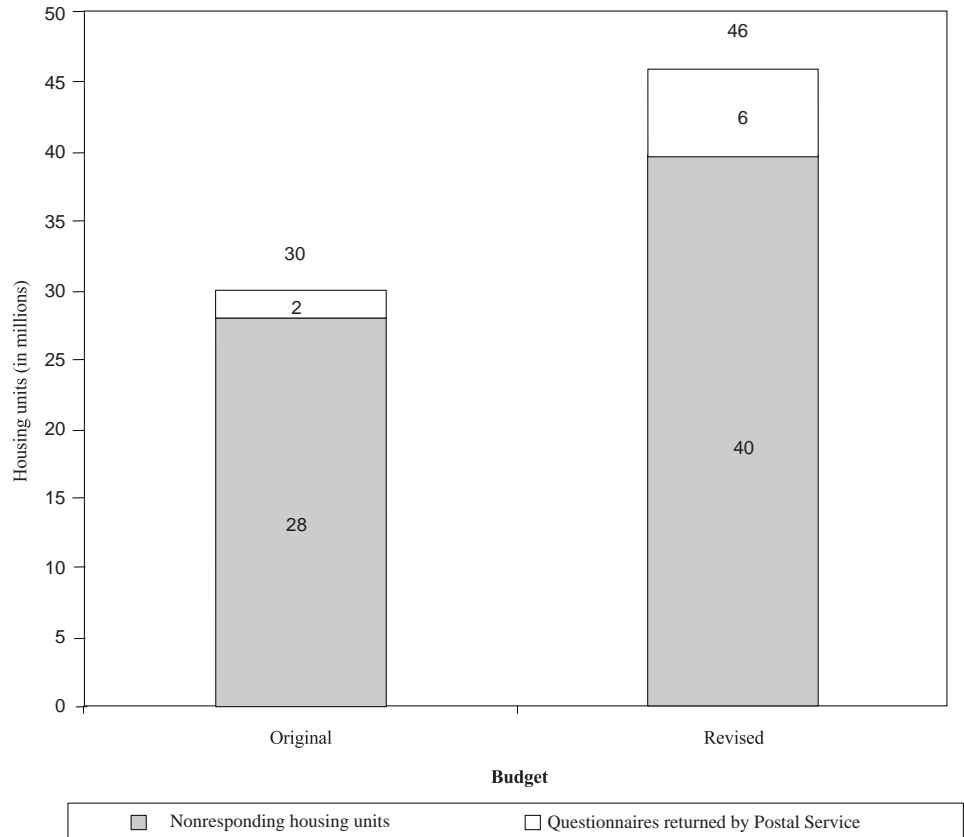
The bureau's request for an additional \$1.7 billion for fiscal year 2000 primarily involves changes in assumptions related to increased workload, reduced employee productivity, and increased advertising. The following sections discuss the changes in these key assumptions between the original and amended budget requests.

Key Assumption—Increased Workload

An assumed increase in workload substantially increased costs in the fiscal year 2000 amended budget request for enumerator and support salaries, benefits, travel, data capture requirements, infrastructure, and supplies. The primary reason for the increase in workload is the bureau's plan to visit an additional 16 million households using a traditional census approach instead of sampling to estimate these housing units. Also adding to the workload are additional programs intended to improve the coverage and quality of the census.

The bureau's amended budget request assumes that it will enumerate the 12 million nonresponding housing units that under the original budget request would have been statistically estimated. The bureau also estimated that the Postal Service would determine that of the 119 million total estimated housing units, about 6 million would be vacant or nonexistent. The purpose of visiting these 6 million housing units is to confirm that the Postal Service was correct in concluding that a housing unit was vacant or nonexistent. In 1990, the bureau found that about 20 to 30 percent of the housing units identified as vacant or nonexistent were actually occupied. As shown in figure 2, under the original budget request, the bureau assumed that it would visit only 2 million of the 6 million housing units and that the remaining 4 million housing units would be accounted for through statistical estimation. Under the amended budget request, the bureau assumes that it will visit all 6 million housing units.

Figure 2: Increase in Housing Units Visited Between the Original and Amended Budget Requests



Source: GAO analysis of unaudited bureau data.

Also contributing to the workload increase are a number of programs intended to improve the coverage and quality of the census that were not in the original budget request. According to the bureau, these programs were added to improve the accuracy of the 2000 census since the bureau would be using a traditional approach and attempting to obtain information directly from all 119 million estimated households. In the bureau’s original budget request, statistical estimation was intended to improve the accuracy of the 2000 census by adjusting census counts for undercounting and other coverage errors.

An example of an additional program includes reinterviewing a sample of housing units for which enumerators had previously completed census

questionnaires. This program, which is budgeted to cost \$22.7 million, involves sampling housing units with questionnaires completed by enumerators, reinterviewing to confirm responses, and adjusting the responses to the census questionnaires to correct any errors found. Another program, budgeted at \$25.2 million, involves attempting to redeliver certain census questionnaires that are returned by the Postal Service. This program is targeted at housing units that have a change in address or zip code between the fall of 1999, when the bureau delivers its address files to its printing vendors, and March 2000, when questionnaires are to be delivered. According to the bureau, the improved coverage and accuracy resulting from these programs would have been accounted for in the original plan through statistical estimation techniques. Although the programs the bureau added in the amended budget request are intended to improve the accuracy of the 2000 census, it is unclear whether these additional programs will result in a 2000 census that is more accurate than the 1990 census.

It is important to note that another key assumption—the average mail response rate for all questionnaire types—remained constant between the original and amended budget requests at 61 percent. Given an estimated 119 million households in the census population, a 1-percent change in the response rate increases or decreases the number of households that must be enumerated by about 1.2 million. The mail response rate has decreased substantially in recent years, dropping from 78 percent in 1970 to 65 percent in 1990. If the response rate is substantially different from the 61 percent that the bureau projects, assuming that all other assumptions prove to be accurate, the bureau's fiscal year 2000 amended budget request could differ substantially from the bureau's needs.

Key Assumption—Reduced Productivity

A significant factor increasing the bureau's budget request is a 20-percent reduction in the assumed productivity rate for temporary employee enumerators following up on nonresponding housing units. In the original budget request, the bureau used an average productivity rate of about 1.28 households per hour, which was reduced in the amended budget request to about 1.03. This revised productivity rate was applied to all temporary enumerator employees for nonresponse follow-up—both those to be hired to visit the 30 million housing units under the original budget request as well as those for the additional 16 million housing units added after the use of sampling for nonresponse follow-up was prohibited by the Census Act.

The bureau provided several explanations for reducing the assumed enumerator productivity rate from 1.28 in the original budget request to 1.03 in the amended budget request. For example, the bureau believes that given the low unemployment rate in the United States, hiring temporary employees to fill hundreds of thousands of new positions is expected to result in the hiring of less productive workers. In addition, the bureau believes enumerators will work slower in order to avoid mistakes knowing that they are being reviewed in a more thorough and formal manner as part of the additional quality control programs. Also, the bureau assumed an increase in rework resulting from added quality control programs.

The bureau did not provide any documented internal or external quantitative analysis or other analysis that supported the original or the revised productivity rate. Consequently, the 20-percent reduction in productivity is based on senior management judgments, which the bureau acknowledges are very conservative.

Because of the increased workload and reduced productivity, the bureau increased the total number of temporary field positions from the 780,000 estimated in the original budget to 1,350,000. This increase in positions does not necessarily mean that the bureau is hiring 570,000 additional people. Many positions exist for only a few weeks; thus some individuals can be, and are, hired for more than one position. Of the 570,000 increase, about 200,000 positions (35 percent) are for nonresponse follow-up and 120,000 (21 percent) are for enumeration-related activities such as counting people at homeless shelters; 220,000 positions (38 percent) are for added coverage improvement and quality control programs. (The remaining 6 percent includes various other positions.)

**Key Assumption—
Additional Advertising**

The bureau included nearly \$72 million for advertising intended to increase questionnaire responses, including advertising that will be targeted at hard-to-enumerate communities. This additional advertising was primarily intended to educate the public on the 2000 census and to increase the mail response rate for questionnaires and thus reduce the bureau's workload.

The bureau's original budget request included about \$56 million for a paid advertising program in fiscal year 2000. The bureau intends to use the additional \$72 million for motivational programs intended to increase the mail-in response rate and for an expanded "Census in the Schools" program. An example of how the bureau plans to spend this money includes a planned educational message, delivered several weeks before

the data collection period, reminding residents in the hard-to-enumerate communities about the benefits of participating in the census process. Also, advertising is to be targeted to run concurrent with the follow-up visits to nonresponding households so that enumerators have a better chance of successfully gaining access to households and completing census forms.

The bureau has no data available to support how much, if any, the increased advertising will increase the response rate. As a result, the bureau's assumed average questionnaire response rate of 61 percent in the original budget request did not increase in the amended budget request. Thus, the bureau has assumed no cost savings in the form of increased response rate and resultant reduced workload from the increased advertising dollars.

Components of the \$1.7 Billion Increase Related and Unrelated to the Sampling Issue

According to the bureau, about \$1.6 billion of the \$1.7 billion requested increase is related to the inability to use statistical sampling, and the remaining \$104 million is not related. Unrelated items include costs not included in the original budget request and revisions of prior estimates. Examples of items unrelated to the decision include the following:

- \$29 million for leasing of common space,
- \$23 million for long-distance telephone service,
- \$16 million for improving address lists and delivering questionnaires, and
- \$10 million for copier paper and map supplies.

We did not conclude whether the bureau properly categorized components of the \$1.7 billion requested increase as related and unrelated. The briefing slides in appendix I provide a detailed discussion by program activity (or framework) of the components of the \$1.7 billion requested increase.

Process Used to Develop the Fiscal Year 2000 Amended Budget Request

To develop the amended fiscal year 2000 budget request, the bureau used a model that consisted of an extensive set of interrelated software spreadsheets. Both the original and amended budget requests were developed with this cost model, with each estimate being developed independently using different versions of the cost model. The process the bureau used to develop the amended budget request involved (1) revising key assumptions in the cost model supporting the original budget request

that were based on the statistical estimation approach for nonresponse follow-up to improve accuracy and (2) incorporating new assumptions based on a traditional census approach. As shown in table 1, the bureau derived the \$1.7 billion requested increase by calculating the net difference between the original budget request of \$2.8 billion and the amended budget request of \$4.5 billion. The output from the bureau's models mathematically agrees with the original and amended budget requests.

Table 1: Comparison of the Bureau's Original and Amended Budget Request

Dollars in millions

Program activity (or framework)	Original budget request	Amended budget request	Requested increase
1. Program development and management	\$28	\$31	\$3
2. Data content and products	195	195	0
3. Field data collection and support systems	2,023	3,474	1,451
4. Address list development	34	44	10
5. Automated data processing and telecommunications support	341	477	136
6. Testing, evaluation, and dress rehearsal	21	21	0
7. Puerto Rico, Virgin Islands, and Pacific Areas	37	71	34
8. Marketing, communications, and partnerships	111	200	89
Total requested amount	\$2,790	\$4,513	\$1,723

Source: GAO analysis of unaudited bureau data.

The bureau's budget estimation model is a set of 16 spreadsheets with thousands of separate formulas that generate estimates for specific census program activities. The formulas generate outputs for items such as salaries and benefits, travel, and advertising based on hundreds of different assumptions. The model serves as a collection point for field costs as well as headquarters and other costs estimated outside the model. Of the \$4.5 billion amended budget request, about \$1.05 billion (23 percent) was calculated outside the model. This \$1.05 billion includes costs for headquarters activities and contracts. The assumptions are developed by program managers and are generally based on either third party evidence, such as independent studies, or senior management's judgment.

Agency Comments and Our Evaluation

We provided a draft of this report to the Department of Commerce for comment. As requested, the Director of the Bureau of the Census provided written comments on behalf of the department in 2 days. (See appendix II.) We appreciate the bureau's rapid response to the draft and its overall cooperation and timely responses to our data requests. In commenting on a draft of this report, the bureau concurred with the facts as presented in the report and provided its perspective on four matters, which we address below.

First, the bureau stated that in addition to serving primarily as the provider of apportionment counts, the 2000 census has three other major components of unique usefulness to the American public—providing data to be used for legislative redistricting, federal housing surveys, and distribution of federal funds. We agree with the bureau that these other components of the 2000 census are important. However, the purpose of our report was to analyze the bureau's overall amended budget request with a focus on the \$1.7 billion requested increase. Given that objective, our report focused on activities that resulted in the substantial increase in the bureau's original fiscal year 2000 budget request. As our analysis shows, the net \$1.7 billion requested increase was primarily related to the bureau's assumptions of increased workload, reduced employee productivity, and increased advertising. We did not see any substantial cost increases related to redistricting, federal housing surveys, and distribution of federal funds.

Second, the bureau noted that the current plan for the 2000 census contains components of both a traditional and a sampling methodology. In addition, the bureau noted that beginning in November 1997, it devoted a substantial effort in planning (on a dual track basis) for a census based entirely on a traditional methodology. Based on our review of the bureau's fiscal year 2000 amended budget request, we agree that the 2000 census includes components of both traditional and sampling methodologies. However, the increase in the estimated cost of the 2000 census is driven primarily by factors relating to a traditional census. The \$1.7 billion requested increase in the bureau's fiscal year 2000 budget is net of a decrease of over \$200 million related to the Accuracy and Coverage Evaluation (ACE) program. The purpose of ACE in the amended budget request is primarily to estimate the population for purposes such as redistricting by sampling households from an address list developed independently from the list used to perform the census. Under the bureau's original budget request, the results of ACE (formerly Integrated Coverage Measurement) were to have been statistically combined with the results of enumeration to provide a

single, integrated set of population counts. Evaluating the bureau's planning for a "dual track" census was beyond the scope of our work.

Third, the bureau provided its perspective on the reasons why the full-cycle cost per housing unit of the 2000 census is projected to nearly double when compared to the 1990 census. The bureau pointed to such factors as normal inflationary increases, infrastructure, federal wage increases, declining response rate, paid advertising, postage, and information technology. It is important to note that our analysis eliminates the impact of general inflation and the growth in housing units over the last 4 decades. Thus, our comparison of full-cycle cost per housing unit is an "apples to apples" comparison. The purpose of showing this comparison is to provide a historical perspective on the real increase in the full-cycle cost per housing unit of the decennial census. Providing an analysis of the reasons for the substantial increase of the projected cost of the 2000 census was beyond the scope of our review. We agree with the bureau that factors such as a declining mail response rate would increase the relative costs of the census. However, it is important to point out that the bureau was unable to demonstrate whether the benefits of certain activities, such as increased advertising and additional programs, justify their cost. In addition, the bureau could not say whether a 2000 census costing an estimated \$56 per housing unit (in constant 1998 dollars) will result in a census that is more accurate than 1990.

Finally, the bureau stated that it believes it is prudent to assume a temporary enumerator employee productivity rate of 1.03 housing units per hour. The bureau cited the immovable calendar and the need to hire a large temporary labor force, the size of which is a direct result of assumed lower productivity. The bureau believes our use of "very conservative" leaves an unwarranted impression of management choices made at one end of a spectrum, which could be shifted to the other end of the spectrum without risk. Based on our analysis, we continue to conclude that the bureau's productivity assumption of 1.03 is based on senior management's "very conservative" judgment as was represented to us by bureau staff during our review. What we mean by "very conservative" is that the bureau is planning for a worst case scenario. As we reported, the bureau did not provide any documented internal or external quantitative analysis or other analysis to support the initial or revised productivity rates. As such, our only possible conclusion is that the 1.03 was developed based on management's judgment, which is what bureau staff represented to us during our review. Because the reported productivity rate from the 1990 census was 1.56 and the assumption used in the original budget was 1.28, we conclude that the

1.03 assumption used in the amended budget request, which covers not only the additional 16 million housing units now planned to be enumerated but also the 30 million housing units to be enumerated in the original budget, is very conservative—or a “worst case scenario.” Should the bureau’s productivity assumption prove to be more or less than 1.03 housing units per hour, the bureau’s fiscal year 2000 amended budget request could differ substantially from the bureau’s needs.

We are sending copies of this report to Senator Fred Thompson, Senator Joseph Lieberman, Senator Judd Gregg, Senator Ernest Hollings, Representative Carolyn Maloney, Representative Dan Burton, Representative Henry Waxman, Representative Harold Rogers, and Representative José Serrano in their capacities as Chairs or Ranking Minority Members of Senate and House Committees and Subcommittees. We are also sending copies to the Honorable William M. Daley, Secretary of Commerce; the Honorable Kenneth Prewitt, Director of the Bureau of the Census; the Honorable Jacob J. Lew, Director of the Office of Management and Budget; and other interested parties. Copies will also be made available to others upon request.

If you have any questions on matters discussed in this letter, please contact me at (202) 512-3406. Other contacts and key contributors to this report are listed in appendix III.

Sincerely yours,

A handwritten signature in black ink that reads "Gregory D. Kutz". The signature is written in a cursive style with a large, stylized initial 'G'.

Gregory D. Kutz
Associate Director
Governmentwide Accounting and Financial
Management Issues

Briefing on the Analysis of the Census Bureau's Fiscal Year 2000 Amended Budget Request

**GAO Accounting and Information Management
Division**

Analysis of the Census Bureau's Fiscal Year 2000 Amended Budget Request

September 15, 1999



GAO Overview

- Background
- Objectives, Scope, and Methodology
- Overall Observations
- Components of the \$1.7 Billion Requested Increase
- Process Used to Develop Fiscal Year 2000 Budget

GAO Background

- The Constitution requires a decennial census of the population in order to apportion seats in the House of Representatives.
- The decennial census is the nation's most expensive data gathering program.
- Public and private decisionmakers also use census data on population counts and social and economic characteristics for a variety of purposes.
- The bureau typically performs a "dress rehearsal" several years before the actual census to help in its planning efforts.

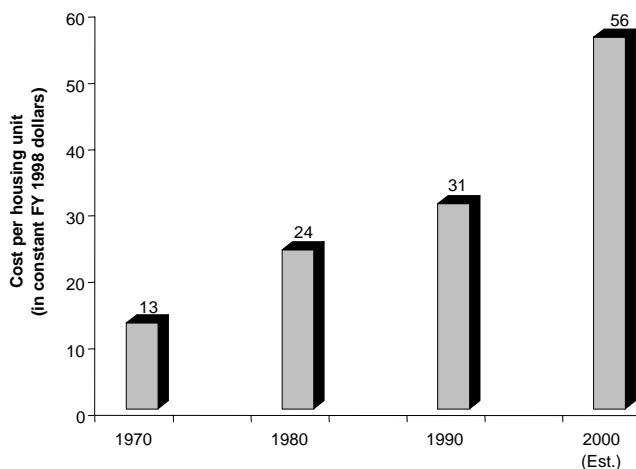
GAO **Background** (cont'd)

- The President's fiscal year 2000 budget request, submitted to the Congress on February 1, 1999, included nearly \$2.8 billion for the decennial census.
- The bureau's original request reflected its plan to gather information based in part on using statistical estimation for nonresponding households and to adjust for undercounting and other coverage errors.
- On January 25, 1999, the Supreme Court ruled that the Census Act prohibits the bureau from using statistical sampling to calculate the population used to apportion the House of Representatives.
- Following this ruling, in June 1999, the bureau submitted an amended budget request substantially increasing its original fiscal year 2000 budget request.

GAO **Background** (cont'd)

- In November 1997 in the Department of Commerce and Related Agencies Appropriations Act for 1998, the Congress directed the bureau to begin planning for a census in 2000 without using statistical methods. However, the bureau did not begin detailed budgeting for a nonsampling census until after the Supreme Court's decision in January 1999.
- The 2000 census will be done in a manner similar to those for the last several decades, in which questionnaires are delivered to identified households asking the occupants to mail back the completed questionnaires.
- In addition, for the 2000 census the bureau plans to incorporate statistical estimation for other purposes, such as providing states with information for redistricting.
- The public will have the option of responding via a toll-free telephone number, the Internet, and unaddressed questionnaires placed in public locations.

GAO Background (cont'd)



- Compared to the 1970 census, the projected full-cycle cost per housing unit of the 2000 census will quadruple (in constant fiscal year 1998 dollars).
- Compared to the 1990 census, the projected full-cycle cost per housing unit will nearly double.

Source: GAO analysis of unaudited bureau data

Note: Cost per housing unit is based on the full-cycle cost of performing a decennial census. The 2000 decennial census cycle began the year after the 1990 decennial census and is estimated to end in 2003. Therefore, the cost per housing unit for the 2000 census is based on reported costs incurred for fiscal years 1991-1998, the fiscal year 1999 total enacted appropriations, the fiscal year 2000 amended budget request, and the bureau's estimate of costs for fiscal years beyond 2000. The 2000 census estimate assumes 119 million total households. The GDP price index was used to adjust for inflation.

GAO Objectives

- Provide an overall analysis of the key changes in assumptions resulting in the \$1.7 billion requested increase.
- Provide details on the components of the \$1.7 billion requested increase and which changes, according to the bureau, are related and which are not related to the inability to use statistical sampling.
- Describe the process used to develop the increase in the original fiscal year 2000 budget request and the overall amended budget request.

GAO Scope and Methodology

- Interviewed bureau officials, who provided us with an overview of the budget formulation process.
- Reviewed copies of the cost models used to develop the original and amended budget requests.
- Reviewed the summarized output and structure of each model and verified the mathematical accuracy of the difference.
- Reconciled the output from the models to determine whether they mathematically supported the original and amended budget requests.

GAO **Scope and Methodology** (cont'd)

- Obtained documentation from the bureau supporting or explaining the basis for the changes in assumptions.
- Had the bureau categorize components of the \$1.7 billion requested increase into those related and unrelated to the inability to use statistical sampling.
- Did not conclude whether the bureau properly categorized components of the \$1.7 billion requested increase as related and unrelated.
- Selected for further analysis cost increases/decreases and related changes in assumptions that contributed most to a framework's total net increase or otherwise warranted explanation.

GAO **Scope and Methodology** (cont'd)

- Did not assess the efficiency or effectiveness of conducting the planned 2000 census or validate the bureau's data and assumptions used to develop the original and amended budget requests.
- Performed our work in Washington, D.C., and at the bureau's headquarters in Suitland, Maryland, between June 1999 and September 1999 in accordance with generally accepted government auditing standards.

GAO Overall Observations

The net \$1.7 billion requested increase in the bureau's original fiscal year 2000 budget request resulted primarily from changes in assumptions relating to

- increased workload,
- reduced employee productivity, and
- increased advertising.

GAO Overall Observations

Increased workload: Housing units

- The workload change was primarily because planned housing unit visits increased from 30 million to 46 million when sampling for nonresponse follow-up was eliminated.
- Of the 16 million additional visits
 - 12 million are for following up on nonresponding households, and
 - 4 million are for housing units the bureau plans to visit because the Postal Service believes they are vacant or nonexistent.
 - In 1990, the bureau found that 20-30% of the housing units identified as vacant or nonexistent were occupied.

GAO Overall Observations

Increased workload: Additional programs

- The bureau has added programs to improve the accuracy of the census through coverage and quality control operations that were not in the original budget request.
- These programs are designed to address coverage errors that statistical estimation was intended to address.
- It is unclear whether these additional programs will result in a 2000 census that is more accurate than the 1990 census.

GAO Overall Observations

Workload: Average mail response rate

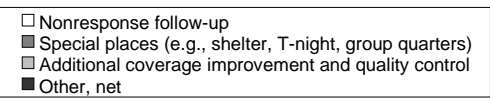
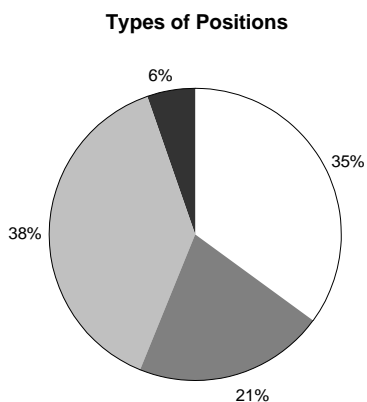
- The average mail response rate for all questionnaire types is a key assumption.
- The bureau used a 61% assumed response rate in the original and amended budget requests.
- The mail response rate dropped from 78% in 1970 to 65% in 1990.
- A 1 percent change in the response rate increases/decreases the number of households that must be enumerated by 1.2 million.
- If the actual response rate is different from 61%, the bureau's needs could differ substantially from the amended budget request.

GAO **Overall Observations**
Reduced productivity

- The assumed productivity rate for all temporary enumerator employees hired to follow up on the estimated 46 million nonresponding households decreased approximately 20%, from 1.28 to 1.03 households per hour.
- According to bureau officials, this decrease is because
 - of the uncertainty of hiring a sufficient number of quality temporary workers in a tight labor market,
 - the bureau assumes that enumerators will be more careful to avoid mistakes, knowing that they are being reviewed in a more thorough and formal manner as part of the added quality control programs, and
 - there will be an increase in rework resulting from added quality control programs.
- The bureau did not provide us any documented internal or external quantitative analysis or other analysis to support the initial or the revised productivity rates.
- Consequently, the 20% reduction in productivity is based on bureau management's judgment, which they acknowledge is very conservative.

GAO Overall Observations

Net increase of 570,000 positions



- Based on the increased workload and reduced productivity, the number of temporary field positions is expected to increase from 780,000 to 1,350,000. The term position does not equate to a person. One staff member may work in several positions since all enumeration operations do not completely overlap one another.
- 200,000 positions (35%) are for nonresponse follow-up operations and 120,000 positions (21%) are for other enumeration activities such as counting people at homeless shelters.
- 220,000 positions (38%) are for added coverage improvement and quality control programs.

Source: GAO analysis of unaudited bureau data.

GAO **Overall Observations**
Increased advertising costs

- The bureau increased advertising by \$71.9 million.
- According to the bureau, this advertising is intended to increase public awareness of the census and hopefully increase the mail response rate.
- The bureau has no data to show whether this advertising will increase the response rate.
- The bureau assumed no cost savings in the form of increased response rate and, accordingly, a reduced workload for these increased advertising dollars.

GAO Components of the \$1.7 Billion Requested Increase

The table below shows the components of the \$1.723 billion increase by the eight program activities (frameworks). The table below represents the bureau's representation of changes related and unrelated to the inability to use statistical sampling. We did not conclude whether the bureau properly categorized components as related and unrelated. The following slides (see page references) provide information on key components of these changes. Note that only selected portions of each change were analyzed.

Program activity (or frameworks 1-8)	Bureau breakout (dollars in millions)			
	Related	Pages	Unrelated	Pages
1. Program development and management	\$3.2	19	\$0.0	N/A
2. Data content and products	6.3	20-21	(6.3)	40
3. Field data collection and support systems	1,353.1	22-34	98.2	41-42
4. Address list development	10.5	35	(0.8)	N/A
5. Automated data processing and telecommunications support	136.4	N/A	0.0	N/A
6. Testing, evaluation, and dress rehearsal	0.0	N/A	0.0	N/A
7. Puerto Rico, Virgin Islands and Pacific Areas	20.7	36-37	13.3	43
8. Marketing, communications, and partnerships	88.4	38-39	0.0	N/A
Total requested increase	\$1,618.6		\$104.4	

N/A - Our analysis did not reveal any significant matters related to this framework.

GAO **Components of Changes**
Framework 1 - Program development and management

Requested increase: \$3.2 million

- The requested increase includes \$1.8 million in related travel and training for 25 additional full-time equivalent (FTE) project management staff and \$1.4 million in overhead and other costs. The bureau stated that this additional staff is needed to support the additional activities and complexities involved in managing a traditional census.
- The bureau's amended budget request states that these funds will also enable revisions to related management information systems.
- Added positions include program analysts, decennial specialists, and communication positions. According to the bureau, some of these positions would be used to define the changes needed to the Cost and Progress System.

GAO **Components of Changes**
Framework 2 - Data content and products

Requested increase: \$6.3 million

- The bureau's amended budget request shows no net change for this framework. However, the \$6.3 million increase shown here is offset by \$6.3 million in decreases shown on slide 40.
- The contract for the American FactFinder system increased by \$3.5 million. This system is used to tabulate and disseminate census results electronically.
- According to the bureau, this increase is related because the bureau plans to tabulate and release two sets of data, the traditional census results and the results of its Accuracy and Coverage Evaluation program, and provide the Internet interface to do so.

GAO Components of Changes
Framework 2 - Data content and products (cont'd)

- This framework's increase also includes \$2.8 million for 195 FTEs for processing requests for foreign language questionnaires.
- The bureau stated that increased promotional efforts by its partners (local governments and community-based organizations) and publicizing the availability of in-language questionnaires in the bureau's paid advertising will increase the request for and use of these in-language questionnaires.
- The bureau's original and amended cost models show no change in the assumed number of additional non-English questionnaires that will be requested. The bureau had not provided us evidence of the increased workload or how it was used to estimate this cost increase by the end of our fieldwork.

GAO **Components of Changes**
 Framework 3 - Field data collection and support systems

For this framework, we analyzed selected activities within the categories listed in the table below. The following slides (see page references) provide our analysis of the key assumptions and data that changed between the original and amended budget requests.

Activity category	Related change (dollars in millions)	Pages
Field infrastructure	\$168.9	23-24
Preparation of enumerator materials	(6.9)	N/A
Regional oversight	41.2	N/A
Field enumeration	998.9	25-32
Local census office staff	349.4	N/A
Accuracy and Coverage Evaluation (ACE)	(208.8)	33-34
Telephone questionnaire assistance	10.4	N/A
Total requested increase	\$1,353.1	

N/A - Our analysis did not reveal any significant matters related to this activity.

GAO **Components of Changes**
Framework 3 - Field infrastructure

Requested increase: \$168.9 million

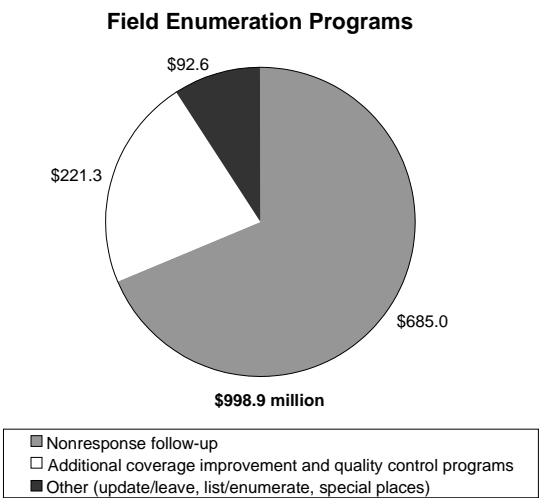
- This increase is for additional office space and related supplies and services to support the additional workload.
- To support the increase in workload, the bureau has increased the number of Local Census Offices (LCOs) from 476 to 520.
- The bureau has assumed the need for 1,500 additional square feet per LCO to support the expanded operations.
- The amended budget request assumes an increase in average cost per square foot of about \$7 for office space rental. The bureau stated that the increase was due to its need for increased space for a larger number of offices in a short time frame and to avoid having to split an LCO between two different buildings.

GAO **Components of Changes**
Framework 3 - Field infrastructure (cont'd)

- \$39.5 million is included for additional equipment, faxes, copier paper, furniture rental, and other supplies for the LCOs.
- About \$53.8 million is for field staff telephones, "Be-Counted" supplies, and other support costs for local census offices, none of which were included in the original budget request.
 - This total includes \$22.6 million for telephone and other employee reimbursements for which there was not a specifically identifiable amount in the original budget request.
 - This total also includes \$28.3 million to perform evaluations of the traditional census programs. However, the bureau indicated that it has not finalized these evaluations and did not provide us with evidence as to how this amount was estimated.
- \$18.5 million is for FTS 2000 long-distance telephone costs.

GAO **Components of Changes**
 Framework 3 - Field enumeration

Requested increase: \$998.9 million



- Field enumeration primarily involves the use of temporary census employees who directly contact the public to complete census questionnaires. Most of this increase relates to visiting households that did not mail back a census questionnaire. These visits are referred to as “nonresponse follow-up.”

- The following slides discuss these follow-up operations and the additional coverage improvement and quality control programs.

Source: GAO analysis of unaudited bureau data.

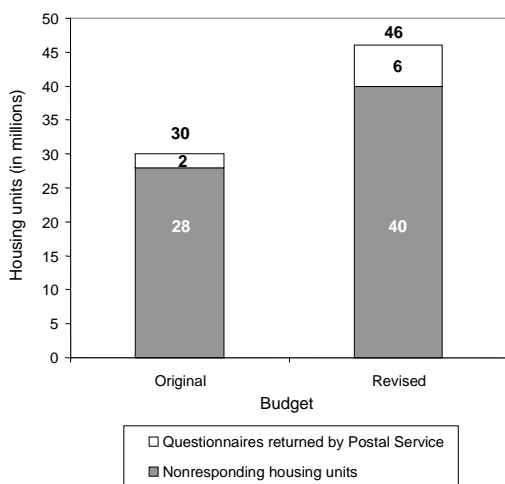
GAO **Components of Changes**
Framework 3 - Field enumeration: nonresponse follow-up

- The \$685 million increase in the cost of following up on nonresponding households is primarily due to the following two factors:
 - increase in workload for housing units visited and
 - decrease in enumerator productivity.

- This increase is **not** due to any substantial change in assumptions for
 - mail response rate (61%),
 - turnover of enumerators (150%),
 - enumerator production hours per day (5), or
 - enumerator hourly wage rates (\$10.25 - \$15.25).

GAO Components of Changes

Framework 3 - Field enumeration: nonresponse follow-up (cont'd)

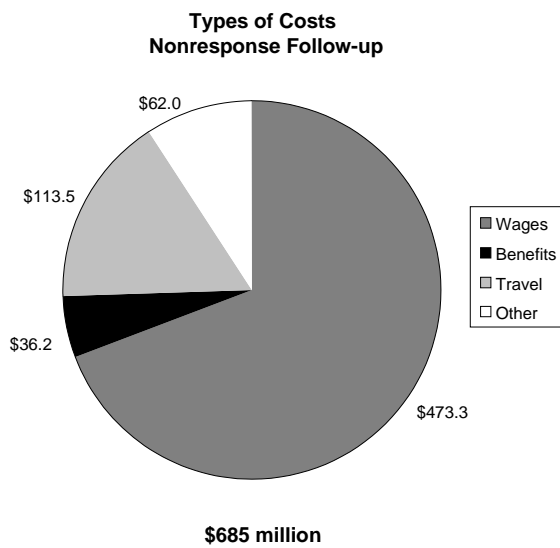


- The workload change was primarily due to an increase from 30 million to 46 million planned visits to housing units when sampling was eliminated.
- The 16 million increase in the housing units includes:
 - 12 million nonresponding households that would have been statistically estimated under the bureau's original approach and
 - 4 million addresses for questionnaires returned by the Postal Service as vacant or nonexistent housing units.

Source: GAO analysis of unaudited bureau data.

GAO Components of Changes

Framework 3 - Field enumeration: nonresponse follow-up (cont'd)

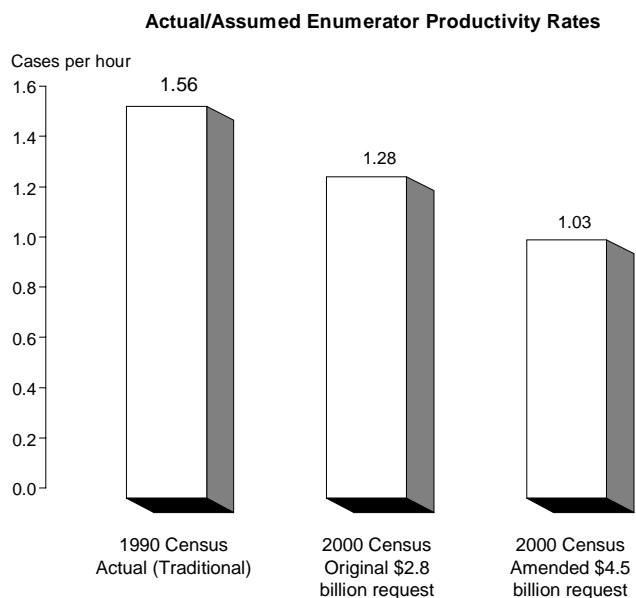


Because of the 16 million increase in visits to nonresponding housing units, the bureau assumed increased wage and benefit costs for an additional 200,000 enumerators, crew leaders, and assistants to spend over 33 million hours collecting information for this operation.

Source: GAO analysis of unaudited bureau data.

GAO Components of Changes

Framework 3 - Field enumeration: nonresponse follow-up (cont'd)



- The 18% decrease in productivity rates, from 1.56 to 1.28, resulted from the bureau's observation of a downward trend in the public's willingness to cooperate with enumerators.

- The bureau's decision to reduce the assumed enumerator productivity rates by another 20% between the original and amended budget requests was based on senior management judgment, which the bureau acknowledged was very conservative.

Source: GAO analysis of unaudited bureau data.

GAO Components of Changes

Framework 3 - Field enumeration: nonresponse follow-up (cont'd)

- Bureau officials acknowledged that their judgment about the decrease from 1.28 to 1.03 for all 46 million housing units also reflects their desire to be very conservative to compensate for the possibility that they may be unable to hire enough enumerators at the current hourly wage rates or they may experience turnover higher than assumed.
- Since the bureau did not assign a value to each of the factors that contributed to the 20% decline in enumerator productivity from the original budget request, we were unable to determine how much of the decrease in productivity was related to the bureau's being very conservative.
- However, reducing the productivity of the enumerators in the amended budget request increased direct payroll costs alone by \$235 million.

GAO Components of Changes
Framework 3 - Field enumeration: additional programs

Requested increase: \$221.3 million

- This increase is for additional programs to improve census coverage and quality assurance procedures and thus improve the accuracy of the census. These additional programs, which increase workload and were not included in the sampling census approach, involve, among other things:
 - \$145.7 million to improve census coverage through efforts such as revisiting housing units where an enumerator reported the housing unit to be vacant or nonexistent but where the Postal Service was able to deliver a census questionnaire,
 - \$25.2 million to redeliver census questionnaires to housing units where the Postal Service returns questionnaires as undeliverable potentially because of changes in addresses and zip codes that occur between the fall of 1999, when the bureau's questionnaire address file is delivered to its printing vendors, and March 2000, when questionnaires are delivered, and

GAO

Components of Changes

Framework 3 - Field enumeration: additional programs (cont'd)

- \$22.7 million to reinterview the occupants of a sample of nonresponding housing units where census questionnaires were completed by enumerators.
- It is unclear whether these additional programs will result in a 2000 census that is more accurate than the 1990 census.

GAO Components of Changes
Framework 3 - Accuracy and Coverage Evaluation (ACE)

Requested decrease: \$(208.8) million

- This decrease results from reduced staffing and related costs for ACE.
- The purpose of ACE is to estimate the population for purposes such as redistricting, by sampling households from an address list developed independently from the list used to perform the census.
- Under the bureau's original plans, the results of ACE (formerly Integrated Coverage Measurement (ICM)) were to have been statistically combined with results of the enumeration to provide a single, integrated set of population counts.

GAO **Components of Changes**
Framework 3 - Accuracy and Coverage Evaluation (ACE) (cont'd)

- The original workload was based on a sample size of 750,000 housing units. As a result of not using statistical estimation for apportionment, the bureau revised its sample size to 300,000 housing units and decreased enumerator and supervisory staff from 50,000 to 20,000.
- The 60-percent reduction in sample size proportionally reduced the cost by \$208.8 million.

GAO **Components of Changes**
Framework 4 - Address list development

Requested increase: \$10.5 million

- This framework's net increase includes a \$10.5 million increase for 370 FTEs to determine the correct location of addresses from an expected increase in Be Counted and Telephone Questionnaire Assistance (TQA) responses.
- The bureau stated that this increase is related because, while the bureau's methodology for determining the correct geographic location of addresses is the same as that planned under the sampling census design, the bureau expects to handle a larger workload.
- However, the assumed workload for Be Counted and TQA returns, according to the bureau's original and amended cost models, remains unchanged at 1 million and 2 million, respectively. The bureau had not provided us evidence of the increased workload or how it was used to estimate this cost increase by the end of our fieldwork.

GAO Components of Changes

Framework 7 - Puerto Rico, Virgin Islands, and Pacific Areas

Requested increase: \$20.7 million

- This requested increase includes \$12.7 million for increased payroll and travel costs. These additional costs are due to an increasing workload, net of a decrease in hourly wage rates. However, 60% of the workload increase is due to the bureau's lowering the assumed average initial mail response rate from 65% to 50%.
- Since Puerto Rico's representation in the House of Representatives is not based on population, Puerto Rico would not be subject to the Supreme Court's decision. However, according to bureau officials, once sampling could not be used for the U.S., the census method was also changed for Puerto Rico for consistency and timing purposes and thus the bureau considers these cost increases to be related.

GAO Components of Changes

Framework 7 - Puerto Rico, Virgin Islands, and Pacific Areas (cont'd)

- The requested increase also includes \$6.0 million for data collection and support activities of an expanded nationwide program to assess the accuracy of the new and enhanced operations that contributed to the census counts.
- However, the bureau acknowledges that it did not have time to formulate a complete evaluation program when the amended budget request was prepared. The bureau is in the process of identifying components for each evaluation. Therefore, the \$6.0 million figure is an estimate that could change when the bureau completes designing and costing its evaluation programs.
- The requested increase also includes \$2 million for promotion activities similar to those activities in the field data collection and support systems (framework 3).

GAO Components of Changes

Framework 8 - Marketing, communications, and partnerships

Requested increase: \$88.4 million

- The requested increase relates primarily to expanded advertising and outreach efforts.
- The amended budget request includes \$71.9 million intended to increase questionnaire responses, including advertising targeted at hard-to-enumerate communities.
- As mentioned earlier, the bureau used a 61% assumed response rate in the original and amended budget requests.
- Consequently, the bureau did not include any cost savings from the additional advertising in its amended budget request.

GAO Components of Changes

Framework 8 - Marketing, communications, and partnerships (cont'd)

- This framework's increase also includes \$5.4 million for support materials, such as posters and flyers; \$3.9 million in payroll and travel costs for 46 additional community, media, and government partnership specialists; and \$7.2 million for expanded evaluation of this program's activities.
- The bureau stated that the \$7.2 million figure is only an estimate and will remain so until the bureau identifies the evaluations it wants to perform and prepares study plans. The purpose of these evaluations is similar to the \$28.3 million and \$6.0 million budgeted for in frameworks 3 and 7, respectively.

GAO **Components of Changes**
Framework 2 - Data content and products

Requested decrease: \$(6.3) million

- The bureau's amended budget request shows no net change for this framework. However, the \$6.3 million decrease shown here is offset by related increases of \$6.3 million, shown on slide 20.
- This net decrease includes \$5.3 million in reduced headquarters payroll, travel, overhead, and other costs. The bureau stated that it decided to cut positions originally budgeted for to pay for other increases in this framework.
- This net decrease also includes \$1 million in reduced postage costs resulting from a 1.6 million decrease in expected number of questionnaires to be mailed back due to a reduction in the expected mail response rate for Puerto Rico.

GAO **Components of Changes**
Framework 3 - Field data collection and support

Requested increase: \$98.2 million

- According to the bureau, some of the unrelated costs involving items not included in the original budget request or revisions of prior estimates are as follows:
 - \$29 million for rental of common areas not included in the original budget request.
 - \$23 million for FTS 2000 long distance service costs revised from the estimates in the original budget request.
 - \$16 million attributable to an increase in the number of housing units that will have questionnaires delivered by enumerators as part of the Update/Leave Program. According to the bureau, the addition of 5 million housing units to the 19 million used in the original budget request was based on the results of the address listing operation that ended in January 1999.

GAO Components of Changes
Framework 3 - Field data collection and support (cont'd)

- \$10 million for map supplies and copier paper costs revised from the estimates in the original budget request.
- \$10 million for staff visits to special place facilities in January and February 2000 not included in the original budget request.
- \$4 million for field follow-up of newly identified addresses as part of the New Construction Program not included in the original budget request.
- \$3 million for printing and mailing weekly earnings statements not included in the original budget request.
- \$3 million for costs associated with the unique travel and logistical requirements to conduct enumeration in Alaska not included in the original budget request.

GAO Components of Changes

Framework 7 - Puerto Rico, Virgin Islands, and Pacific Areas

Requested increase: \$13.3 million

- The requested increase for this framework includes an additional \$13.3 million for Island Area Memorandums of Understanding (MOU) above the \$5.3 million in the original budget request. These MOUs represent agreements between the bureau and the Island Areas (excluding Puerto Rico) on the responsibilities each party has for conducting the census of the Islands' population, as well as the budget for these activities.
- This increase represents revisions of prior cost estimates based on more recent information for such things as space, telecommunications, shipping, wage rates, and travel allowances. The increase also includes updated information on the enumeration workload provided by the Island Area governments and the addition of an office operation to the work originally planned.

GAO **Process Used to Develop FY 2000 Budget**
 Comparison of original and amended budget requests

The bureau derived the \$1.7 billion requested increase by calculating the net difference between the original budget request of \$2.8 billion and the amended budget request of \$4.5 billion.

Program activity	Original budget request	Amended budget request	Requested increase
	(dollars in millions)		
Program development and management	\$27.8	\$31.0	\$3.2
Data content and products	194.6	194.6	0.0
Field data collection and support systems	2,023.2	3,474.5	1,451.3
Address list development	33.9	43.6	9.7
Automated data processing and telecommunications support	341.0	477.4	136.4
Testing, evaluation, and dress rehearsal	20.5	20.5	0.0
Puerto Rico, Virgin Islands and Pacific Areas	37.4	71.4	34.0
Marketing, communications and partnerships	111.1	199.5	88.4
Total requested amount	<u>\$2,789.5</u>	<u>\$4,512.5</u>	<u>\$1,723.0</u>

GAO **Process Used to Develop FY 2000 Budget**

Cost model details

- Consists of 16 interrelated software spreadsheets and numerous formulas and assumptions.
- Serves as a central collection point for field costs, as well as headquarters and other costs estimated outside the model.
- Of the \$4.5 billion amended budget request, about \$1.05 billion (23%) was calculated outside the model. The amounts calculated are for headquarters activities and contract costs (e.g., advertising).
- The output from the bureau's models mathematically agrees with the original and amended budget estimates.
- These budget estimates are based in part and in varying degrees on the judgment of bureau management.

Comments From the Department of Commerce

SEP 17 1999



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, DC 20233-0001

OFFICE OF THE DIRECTOR

Mr. Jeffrey Steinhoff
Acting Assistant Comptroller General
United States General Accounting Office
Washington, DC 20548

Dear Mr. Steinhoff:

U.S. Department of Commerce Secretary William Daley received the draft report entitled *2000 Census: Analysis of Fiscal Year 2000 Amended Budget Request*, on September 15, 1999. He has asked me to review the report and reply on behalf of the Department. The U.S. Census Bureau appreciates this opportunity and concurs with the facts as presented by the General Accounting Office.

In your letter to Chairman Miller, you describe the 2000 census as serving primarily as the provider of apportionment counts. I would like to expand the characterization of the 2000 census to include the three other major components of the decennial census of unique usefulness to the American public. These components include data used in legislative redistricting, data which provide the statistical underpinnings for all the federal household surveys, and data used for the distribution of federal funds. I wish to emphasize the importance we place on executing a census that is integral to the functioning of our government in the most basic sense and why we act in the most prudent manner to assure the most accurate and complete census we can achieve.

This brings me to my second general point, which is that our current plan contains components based on traditional methods as well as other modern statistical methods. It clearly is neither a traditional plan nor the plan we developed prior to the Supreme Court's decision last January. The Census Bureau developed the current Census 2000 Plan to meet the mandate of the Supreme Court. The timing of the Supreme Court's decision precluded testing the plan in its entirety, but pieces of the plan have been tested. Census Bureau staff compressed into months the development of the Census 2000 Plan, a process normally requiring several years of work. On page 2 of your draft letter, and on page 5 of the slides, you state "In November 1997, the Congress directed the Bureau to begin planning for a census in 2000 without using statistical methods. However, the Bureau did not begin detailed budgeting for a nonsampling census until after the Supreme Court's decision in January 1999." I have included in the enclosure the following activities that show, on receipt in November 1997 of our Fiscal Year 1998 Budget, the Census Bureau devoted substantial effort in planning (on a dual track basis) for a census which used traditional census taking methods exclusively. With respect to detailed budgeting, there was clearly no way that we could have budgeted for the current Census 2000 Plan prior to the Supreme Court's mandate.

I will now turn to an assumption used by the General Accounting Office (GAO) in calculating the full cycle cost estimate of Census 2000 per household. On page 7 of the report, there is a table that estimates the full cycle (FY 1991-FY 2003) cost of Census 2000 at \$56 per household in constant dollars. I believe it is important to address some of the reasons for the increase in the full cycle cost. In addition to normal inflationary increases, there are standard cost increases to address the increase in the number of field offices from 459 to 520, the increase in the Special Place/Group Quarters work load, and the upward adjustments to federal wages. In addition, there are redesigned and new operations that include the pre-notice letter added in 2000, the

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Comments From the Department of
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Mr. Jeffrey Steinhoff

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expanded Telephone Questionnaire Assistance program, the expansion for the language program, and the increase for the Accuracy and Coverage Evaluation Survey work loads. The Census Bureau also had significant cost increases to address declining public cooperation, such as reducing the mail response rate from 65 to 61 percent, the paid advertising campaign, and additional supervision for our field staff. Other cost increases above standard ones were instituted to adjust field wage rates to local economic conditions, to change our postage to first class from third class, to work out of larger field offices with a higher cost per square foot, to address costs for Information Technology that have out paced inflation, and to address printing increases. While this increase over 1990 is extensive, we believe that it is justified and necessary for completion of a quality census 2000, given the design mandated by the Supreme Court's decision.

Several times in the text of the report, there is a reference—for example, on page 4—of assumptions based on senior management judgments, which are called “very conservative.” In the course of our discussion on Tuesday, September 14, 1999, the GAO characterized the term as not at all pejorative but merely in contrast to having quantitative analysis or documentation to back up our choices. We think the use of “very conservative” leaves an unwarranted impression of management choices made at one end of a spectrum, which could be shifted to the other end of the spectrum without risk to the Census outcome. We believe our assumptions represent prudent management in a situation that is constrained by an unyielding calendar and for the current Census 2000 Plan, for which full testing has not been possible. As I mentioned in the beginning of this letter, we all recognize the critical responsibility of the decennial census to our government's ability to fulfill its most basic functions. This awesome responsibility dictates management decisions designed to ensure that the quality of Census 2000 is not jeopardized.

A good example of sound management is clearly illustrated in the assumptions made by the Census Bureau regarding productivity rates for temporary enumerator employees for nonresponse follow-up. The calendar is immovable, and the mail response rate is largely out of our control. Therefore, the only variable over which we have any influence is the size of our labor force, which is a function of the productivity rates. Recognizing that reaching further into the labor force will decrease average productivity, intelligent management requires us to be prudent in our assumptions about the size of the nonresponse follow-up work force. We also would like to clarify the term used on page 4 and other parts of the text to describe the hiring of “quality temporary workers.” While the point is subtle, we think a more accurate description should apply to the hiring of workers whose average productivity rate will be lower for a number of reasons, as described by GAO, as opposed to hiring quality versus nonquality workers.

Finally, I want to state, as I have on many occasions, that we are fully committed to taking the most accurate and complete census possible with our present array of tools at hand. We cannot say whether, in spite of our best efforts, Census 2000 will be more accurate than 1990. I firmly

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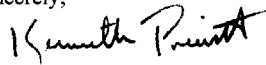
Mr. Jeffrey Steinhoff

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believe, however, that Census 2000 would be less accurate if implemented without the intensive plan we have developed.

Thank you again for the opportunity to comment on the draft report.

Sincerely,



Kenneth Prewitt
Director

Enclosure

Key Census 2000 Activities Relating to Planning for a Traditional Census

- **December 1997 - March 1998**
 - Revised the Dress Rehearsal plan by designating one of the three sites (South Carolina) to be conducted without the use of sampling. The sampling components were eliminated and enhancements that could be made in 5 months were implemented.
 - Developed an organizational structure to provide for a dual track planning process.
- **April 1998**
 - Began implementing the Dress Rehearsal to test two different census designs.
 - Reported to Congress on possible components in a traditional census plan.
- **May - June 1998** - Developed the research framework for analyzing potential components of a traditional census design.
- **July - September 1998** - Twenty interdivisional teams investigated possible components of a traditional census plan.
- **October 1998** - Opened 130 Local Census Offices early to accommodate the dual track planning process.
- **October - December 1998** - Evaluated team recommendations and developed an integrated plan for conducting a census using only traditional census taking methods.
- **January 1999** - Delivered final documentation to the Congress on the traditional census plan.
- **January 25, 1999** - *Began planning for a Census 2000 that met the objectives of the Supreme Court decision.*
- **February - March 1999** - *Redesigned the census plan and incorporated it into the Master Activity Schedule.*

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- **April - May 1999**
 - Developed a cost model for Fiscal Year 2000 that reflected the new Census 2000 plan.
 - Identified new short-term requirements generated by the new Census 2000 plan that led to submitting a supplemental budget request for Fiscal Year 1999.
- **June 1999** - Submitted a new Fiscal Year 2000 budget request.

GAO Contact and Staff Acknowledgements

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