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CENSUS 2010, OFF-LINE AND OFF-BUDGET: THE HIGH COST OF LOW-TECH COUNTING

HEARING

BEFORE THE

FEDERAL FINANCIAL MANAGEMENT, GOVERNMENT INFORMATION, AND INTERNATIONAL SECURITY SUBCOMMITTEE

OF THE

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

SECOND SESSION

JUNE 6, 2006

Available via http://www.access.gpo.gov/congress/senate

Printed for the use of the Committee on Homeland Security and Governmental Affairs

U.S. GOVERNMENT PRINTING OFFICE

29–501 PDF WASHINGTON : 2007

For sale by the Superintendent of Documents, U.S. Government Printing Office
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CONTENTS

	Page
Opening statements:	
Senator Coburn	1
Senator Carper	14

WITNESSES

TUESDAY, JUNE 6, 2006

Hon. Louis Kincannon, Director, U.S. Census Bureau	7
Brenda S. Farrell, Acting Director, Strategic Issues, U.S. Government Accountability Office	9

ALPHABETICAL LIST OF WITNESSES

Farrell, Brenda S.:	
Testimony	9
Prepared statement	72
Kincannon, Hon. Louis:	
Testimony	7
Prepared statement with attachments	34

APPENDIX

Charts submitted by Senator Coburn:	
"After Inflation Cost of the Census: 1970–2010"	31
"Cost of the Census: 1940–2010"	32
"Percentage of U.S. Adults Online"	33
Questions and responses for the Record from Senators Coburn and Carper for:	
Mr. Kincannon	94
Ms. Farrell	101

CENSUS 2010, OFF-LINE AND OFF-BUDGET: THE HIGH COST OF LOW-TECH COUNTING

TUESDAY, JUNE 6, 2006

U.S. SENATE,
SUBCOMMITTEE ON FEDERAL FINANCIAL MANAGEMENT,
GOVERNMENT INFORMATION, AND INTERNATIONAL SECURITY
OF THE COMMITTEE ON HOMELAND SECURITY AND
GOVERNMENTAL AFFAIRS,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:32 p.m., in room SD–342, Dirksen Senate Office Building, Hon. Tom Coburn, Chairman of the Subcommittee, presiding.

Present: Senators Coburn and Carper.

Senator COBURN. Good afternoon. The Federal Financial Management Subcommittee of the Homeland Security and Governmental Affairs Committee will come to order.

I want to welcome each of our guests.

I have an opening statement and Senator Carper will be arriving shortly. We will go on with our hearing and, dependent on when he arrives, we will allow him a chance to give an opening statement.

I want to thank you for the preparation for this hearing and working with our staffs. It has been great to work with you.

Usually, when we think about the census, we think about statistics. The Census Bureau has become the largest statistical agency in the country, if not the world. But behind its data collection is a steadily increasing price tag for the decennial census which, until recently, has managed to stay under the radar of Congress. As we approach the 2010 census, though, it is becoming increasingly apparent to me that costs are spiraling upward at a startling rate.

The 2010 census is projected at the present time to cost nearly $12 billion. That is $5 billion more, an 80 percent increase, over the 2000 census. And that is the estimate which we are going to hear about today, the numbers behind that.

The 2000 census, in turn, cost $4 billion more than the 1990 census, at the time a more than 100 percent increase. This is all part of a disturbing trend in recent decades which witnessed dramatic cost increases from one census to the next.

Adding to our cost problem is a culture problem. The census seems to be operating under an early 20th-Century mentality when pen and paper were the only tools available. The Internet is now available. For the next census in 2010, the Bureau has decided not to offer an online option, choosing rather to stick with the system that is in place as of today.

In an age when people do everything online, from shopping to banking to filing their tax returns, a record 70 million tax returns this last year were filed online, the Census Bureau is lagging behind, needlessly adding to its already high cost and also adding to its time delay.

I think this is also a mission problem. Census is tasked with counting the population and it needs the help of all citizens to pull it off. Participation in the census would be easier to obtain for more people with fewer census personnel if an online option were available.

The purpose of this hearing today is to examine what is behind the skyrocketing cost at the census and what can be done about it. I hope to get answers to questions as how well has the census been planning for the 2010 count? What assurances can we have that the cost overruns in the billions will not take place next time like they have so many times before? And why was an online option suddenly rejected? And what will it take to get that back into the plans for 2010?

The best cost estimate being provided by the Census Bureau for 2010 is $11.3 billion. Unfortunately though, if history is any guide, that estimate will bear little resemblance to reality in 2010. As you can see from the chart,[1] from 1940 to 2010, the 1970 to 2000 cost for the census increased sharply. Some of that is related to Congress' requests for increased data.

Costs jumped most significantly between 1970 and 1980. Since 1980 the cost of the census has doubled every decade. In 2010 it is shaping up to be the same story once again with a cost increase over the 2000 census of at least $5 billion and most probably $7 billion. No one seems to be willing to apply the brakes.

Some, including the Census Bureau itself, have blamed inflation and population growth, but what we need to do is look at the facts. After inflation cost of the Census, if you look at the next chart from 1970 to 2010,[2] in the decade between 1990 and 2000, when inflation was amazingly low, 27 percent, the cost of the census increased 154 percent. Between 2000 and 2010 with 10-year inflation numbers again expected to be low, the cost of the census is expected to be increased between 70 and 90 percent.

The situation is the same when the population growth numbers are compared with census costs. In 1990, the census cost $10 a person and in 2000 it cost $23 per person. But in 2010, the census will cost a staggering, at a minimum, $36 per man, woman, and child in this country.

That is much more than it cost to file your taxes electronically with the IRS, and yet the Constitution requires us to count the heads.

The bottom line is that the census costs are shooting upward at an unacceptable rate. Many of the problems are with Congress and what we have asked for. But some of the excuses that we have been given are without merit.

What then are the real causes of the large cost increase between 2000 and 2010? The Census Bureau, through their testimony, at-

[1] The chart referred to appears in the Appendix on page 31.
[2] The chart referred to appears in the Appendix on page 32.

tributes it to factors such as increased difficulty of finding non-English speakers and people living in non-traditional housing. The Bureau also claims that as the population grows, counters will have to knock on more doors to make up for people that do not mail back their forms and that costs money. That is true. But when all these factors are accounted for, it still remains unclear how we get to a number approaching $12 billion to $13 billion.

The Government Accountability Office, Congress' watchdog agency, has analyzed the Bureau's cost projection and was equally mystified. As a result, they recommended more than 2 years ago that the Census Bureau compile all its planning information into one master document to help Congress understand its long-term budget. Census agreed to do so but two appropriation cycles have now come and gone, and still there is no document.

How is Congress supposed to fulfill our oversight duty effectively without understanding this basic information? Or is that the point? I assure you, we will not let this issue drop. There will be a planning document that itemizes the cost projections down to the dollar.

Knowing projected costs is only the first step. You will see, on this chart,[1] transparency is only the first step to accountability. Frankly, all of these issues should have been worked out after the 2000 budget busting debacle. As late as 1998, the Bureau projected cost of $4 billion to $5 billion. When all was said and done, the final cost was more than $6.5 billion, a cost overrun over estimates of greater than 30 percent. If the 2010 census faces a cost overruns similar to that in 2000, it will put the final price tag at $15 billion. It is not simply a matter of possibility, it is an inevitability unless something is done right now to reassess the cost structure associated with the census.

One of the most obvious solutions to long-term cost containment is for the Agency to join the rest of the world in cyberspace and offer the census online. As you can see from this chart,[2] the percentage of American adults online now exceeds 72 percent. It is estimated that will be above 85 percent in the year 2010. An online census would allow the Census Bureau to virtually eliminate its paper intensive systems, to cut back dramatically on the need for house calls, and to allow faster data integration.

In just the last 5 years, the Federal Government has made extraordinary strides with its e-government initiatives to the point that every citizen can now file their taxes online. Certainly, if citizens can file their taxes online, they can be counted on line. And so it is puzzling to me why the census has taken the online option off the table for 2010.

To say an online option is not practical or cannot be done simply defies the plain fact that 73 percent of all Americans are already online and the Federal Government e-government sites are the No. 1 place that they visit.

Canada just last month showed us that it can be done and conducted its national census and offered it online to all of its citizens.

[1] The chart referred to appears in the Appendix on page 32.
[2] The chart referred to appears in the Appendix on page 33.

This is not just something that we can do. It is something that must be done.

In the medical world, we have a word for it when the number of cells in the body increases at a rate faster than the underlying conditions that usually govern cell division would predict. It is called cancer. The underlying factors governing the cost of counting Americans do not justify the staggering cost increases in the census. Americans get it. They get that it is easy to do things online. They get that it is not complicated for a Federal agency to know who they are and some basic information about them.

The government, for the most part, already knows practically everything there is to know about us, from what is in our bank accounts to our health status in retirement. I simply cannot sell the cost increases that I am seeing to my constituents in Oklahoma, and I will not defend them to the constituents in this country. Americans are not buying it.

There is still time to make mid-course adjustments for 2010. Our children and grandchildren cannot afford for us to punt these problems until 2020 or 2030. My hope is that this hearing will help get us back on the right track right away.

[Prepared statement of Chairman Coburn follows:]

OPENING STATEMENT OF CHAIRMAN COBURN

Usually, when we think about the Census, we think statistics. The Census Bureau has become the largest statistical agency in the country, if not the world. But, behind its data collection is a steadily increasing price tag for the decennial census, which until recently has managed to stay under the radar of Congress. As we approach the 2010 Census, though, it is becoming increasingly apparent that costs are spiraling upward at a startling rate.

The 2010 Census is projected to cost nearly $12 billion—that's $5 billion more—a startling 80 percent increase—over the 2000 Census. The 2000 Census in turn cost $4 billion more than the 1990 Census—at the time, a more than 100 percent increase. This is all part of a disturbing trend in recent decades, which witnessed dramatic cost increases from one census to the next.

Adding to our cost problem is a culture problem. The Census seems to be operating under an early 20th Century mentality, when pen and paper were the only tools available. The Internet is now available. For the next census in 2010, the Bureau has decided not to offer an online option, choosing rather to stick with a paper system. In an age when people do everything online from shopping to banking to filing their taxes, the Census Bureau is lagging behind, needlessly adding to its already high costs.

This is also a mission problem. Census is tasked with counting the population and it needs the help of all citizens to pull it off. Participation in the census would be easier to obtain from more people with fewer Census personnel if an online option were available.

The purpose of this hearing today is to examine what is behind the skyrocketing costs at the census, and what can be done about it. I hope to get answers to questions such as: How well has the Census been planning for the 2010 count? What assurances can we have that cost overruns in the billions won't take place next time like they have so many times before? Why was an online option suddenly rejected and what will it take to get it back into the plans for 2010?

The best cost estimate being provided by the Census Bureau for the 2010 Census is $11.3 billion. Unfortunately, though, if history is any guide, that estimate will bear little resemblance to the reality in 2010. As you can see from this chart, between 1970-2000 costs for the census increased sharply. Costs jumped most significantly between 1970 and 1980, going from $250 million to well over $1 billion in 1980. Since 1980, the cost of census has doubled every decade. In 2010, it is shaping up to be the same story once again with a cost increase over the 2000 Census of at least $5 billion, and possibly more. No one seems willing or able to apply the brakes.

Some, including the Census Bureau itself, have blamed inflation or population growth, but let's take a look at the facts. [refer to posters] As you can see from this

poster, even after inflation is accounted for, costs still climb from one census to the next. In the decade between 1990 and 2000, when inflation was an amazingly low 27 percent, the cost of the census increased by 154 percent. Between 2000 and 2010, with ten-year inflation numbers again expected to be low, the cost of the census is expected to increase by between 70-90 percent.

The situation is the same when population growth numbers are compared with census costs. In 1990, the census cost $10 a person, and in 2000 the Census cost $23 per person; but in 2010, the census will cost a staggering $36 for every man, woman and child living in this country. That's much more than it costs to file your taxes electronically with the IRS and yet all the Constitution requires us to do is count heads here. The bottom line is that census costs are shooting upward at an unacceptable rate, and the excuses given are without merit.

What, then, are the real causes of the large cost increase between 2000 and 2010? The Census Bureau attributes it to factors such as the increased difficulty of finding non-English speakers and people living in non-traditional housing. The Bureau also claims that as the population grows, counters will have to knock on more doors to make up for people that don't mail back their forms—and that costs money. But, when all of these factors are accounted for, it still remains unclear how we get to a number approaching $12 billion.

GAO—Congress' watchdog agency—has analyzed the Bureau's cost projections and was equally mystified. As a result, they recommended—more than two years ago—that the Bureau compile its planning information into one master document to help Congress understand its long-term budget. Census agreed to do so, but two appropriations cycles have now come and gone and there still is no document. How are we supposed to fulfill our oversight duty effectively without understanding this basic information? Or is that the point? I assure you, we will not let this drop. There will be a planning document that itemizes cost projections down to the dollar.

Knowing projected costs is only the first step—you'll see on this chart—transparency is only the first step to accountability. Then we have to figure out how to contain those costs. Frankly, all these issues should have been worked out after the 2000 budget-busting debacle. As late as 1998, the Bureau projected costs of $4-5 billion. When all was said and done, the final cost was more than $6.5 billion—a cost overrun of more than 30 percent. If the 2010 Census faces a cost overrun similar to that in 2000, it will put the final price tag at $15 billion. This is not simply a matter of possibility, it is an inevitability unless something is done right now to curb the skyrocketing costs.

One of the most obvious solutions to long-term cost containment is for the agency to join the rest of the world in cyberspace and offer the census online. An online census would allow the Census Bureau to virtually eliminate its paper-intensive systems, to cut back dramatically on the need for house calls and to allow faster data integration. In just the last five years, the federal government has made extraordinary strides with its e-Government initiatives to the point that every citizen can now file their taxes online—certainly if citizens can file their taxes online, they can be counted online. And so it is puzzling to me why Census has taken the online option off the table for 2010.

I am deeply concerned that the Census is mired in a bureaucratic, "pen and paper" mentality that refuses to change the way things have always been done. To say an online option is not practical or cannot be done simply defies the plain fact that 73 percent of all American adults are online already. Canada just last month showed us that it can be done and conducted its national census and offered it online to all of its citizens. This is not just something that we can do, it something that must be done. I assure you that this subcommittee will not drop this issue. The 2010 Census will be online.

In the medical world, we have a word for when the number of cells in the body increases at a rate faster than the underlying conditions that usually govern cell division would predict—cancer. The underlying factors governing the cost of counting Americans do not justify the staggering cost increases at the Census. Americans get this. They get that it's easy to do things online. They get that it's not that complicated for a Federal agency to know who they are, and some basic information about them. The government for the most part, already knows practically everything there is to know about us—from what's in our bank accounts to our health status in retirement. I simply can't sell these cost increases to my constituents back in Oklahoma. Americans aren't buying it.

There's still time to make mid-course adjustments for 2010. Our children and grandchildren can't afford for us to punt these problems to the 2020 or 2030 count. I hope that this hearing will help us get back on track right away. I want to thank our witnesses for being here today and for their time and preparation.

Senator COBURN. And I want to thank you again for your efforts to be here and our thank you for our witnesses to be here.

Let me introduce to you, if I can, our panel of witnesses. First is Brenda Farrell. She is Acting Director of Strategic Issues, U.S. Government Accountability Office.

In November 2005, Ms. Farrell was appointed Acting Director for Strategic Issues, where she is responsible for overseeing three major bodies of work related to census, strategic human capital, and government regulation issues.

Prior to joining Strategic Issues teams, Ms. Farrell was Assistant Director for Defense Capabilities in Management and led military personnel engagements encompassing bodies of work in military pay and benefits, Reserve and National Guard mobilization issues, and military officer requirements and career development.

She began her career at GAO in 1981 and has served in a number of areas. In 2001, she was selected to enter the National Defense University Industrial College of the Armed Forces and earned a master's degree in national resources strategy.

She has also completed other specialized training in subject matter expertise such as defense manpower and force management. She completed the Leadership Development Program at Eckerd College in 2004. And in 2005, she completed the Senior Executive Fellow Program at Harvard University.

Her numerous awards include Results Through Teamwork Awards in 2004 and 2003, an award for high quality products and client relations in 2003, and a GAO honor award for sustained extraordinary performance leading multiple highly complex defensive reviews in 2002.

Charles Louis Kincannon is the Director of the U.S. Census Bureau. He was appointed by President Bush and was unanimous confirmed by the Senate on March 13, 2002.

He began his career as a statistician at the U.S. Census Bureau in 1963 after graduating from the University of Texas at Austin. Congratulations on that wonderful national championship.

He held positions of leadership at the Census Bureau and also with the Office of Management and Budget. He served as Deputy Director of the Census Bureau during the 1980s and as Acting Director during the crucial final phase of preparation for the 1990 census.

Throughout his career with the Federal Government, Mr. Kincannon sought to strengthen relationships between statistical agencies as well as data users in order to produce timely, relevant data that informs public policy and decisionmaking.

In October 1992, Mr. Kincannon was appointed as the first Chief Statistician in the Organization for Economic Cooperation and Development, (OECD), in Paris to coordinate the organization's statistical programs, as well as advise the OECD Secretary on general statistical policy. During that time, he encouraged cooperation and understanding amongst statistical agencies and underscoring the large relationships between the nations.

I again want to thank each of you for your cooperation. Mr. Kincannon, we are going to recognize you first and give you an opportunity to speak. Take the time that you need. And then we will recognize Ms. Farrell. You are recognized.

TESTIMONY OF HON. LOUIS KINCANNON,[1] DIRECTOR, U.S. CENSUS BUREAU

Mr. KINCANNON. Thank you, Mr. Chairman. Let me move this a little closer.

On behalf of the Census Bureau, I want to thank the Chairman and presently Senator Carper for the opportunity to update the Senate on the re-engineered 2010 census program. The decennial census program is the Bureau's largest activity and its highest budget priority. In fact, it is one of this Nation's largest peacetime mobilizations and is mandated by the Constitution.

In the past, the census provided comprehensive detailed information once every decade. Yet there is an increasing need for such data more frequently at the local level. The American Community Survey, one of the components of the re-engineered 2010 census program, will address this need.

The American Community Survey (ACS), replaces the long form of the census, a crucial step in realizing a short form only census. In the past, we collected long form data as part of the decennial census. As such, it was costly and it complicated our effort to conduct a basic enumeration.

The American Community Survey collects information on education, income, and other social and economic characteristics. Every question on the ACS is mandated by Federal law or fulfills Federal requirements.

The ACS will provide timely, accurate information for every county, city, and neighborhood each year, not just once a decade. These data will help city and community leaders in every State and allow the Census Bureau to focus its efforts in 2010 on the core constitutional count used as the basis for apportionment and redistricting.

The success of the 2010 re-engineered census program will also depend on the MAF/TIGER or geographic tools enhancement program, an extensive nationwide operation to modernize and consolidate the census address list and map. This is a multifaceted effort taking advantage of well-established technologies, such as GPS capabilities, to improve outdated error prone map systems currently in place.

Much of this work is being done through a major contract with the Harris Corporation, estimated at $200 million in cost at the time of its award in June 2002. This activity is within budget and on schedule for completion in 2008. This geographic improvement program is important because ensuring the accuracy of the location of each address is the guarantee that political representation and resources can be distributed fairly to States, cities, towns, census tracts, and blocks as they are demanded.

Our overriding goal for the 2010 census is to improve the coverage and accuracy of the census and to contain costs. In response to numerous GAO recommendations, we have developed a rigorous planning and testing program that includes many long sought census improvements such as bilingual questionnaires, a second mail-

[1] The prepared statement of Mr. Kincannon with attachments appears in the Appendix on page 34.

ing of the questionnaire and targeted census coverage improvement programs.

Another significant improvement is the expanded use of technology. Our efforts have centered on two major systems, the 2010 Decennial Response Integration System (DRIS), and the Field Data Collection Automation System, or FDCA as we rather uneuphoniously refer to it.

Both of these are IT contracts together totalling over $1 billion. The purpose of the DRIS contract, which was awarded last year to Lockheed Martin Corporation, is to ensure the accurate and protected collection and storage of American's data, whether by paper form, handheld computer, or telephone.

The FDCA contract was awarded this spring to the Harris Company. The purpose of FDCA is to capture directly the information collected by mobile computer devices during the personal interviews and non-response follow-up. This eliminates the need for paper forms, address lists, and maps for the major field data collection operations. The use of this technology is a revolutionary improvement in the way we conduct the largest and most expensive activity of the decennial census.

All of this underscores the importance of Congressional support for all aspects of the 2010 decennial census. Thousands of individual operations and procedures must be successfully implemented in less than 4 years to ensure the success of the 2010 census.

The President's 2007 budget request for the Census Bureau is over $800 million. $512 million of that is for the decennial programs. In the course of the decade, we expect the re-engineered census will cost more than $11 billion, as the Chairman said.

To understand the cost, consider the scope of the task. It is our responsibility to count every person in every community on every street and in every household. For the Census 2000, we sent questionnaires to more than 117 million households, 80 million of those households responded by mail. For the rest, we sent census takers to collect the census information. We opened 520 local census offices and hired more than 860,000 temporary workers.

For 2010, we are projecting there will be more than 310 million persons living in America and that we will have to count them in more than 130 million households.

Our increasingly diverse population is more difficult to count. As we plan and test new data collection efforts, we try to estimate the effect they will have on the overall response rate, since the high non-response follow up is truly the cost driver for the census.

We have successfully tested and plan to implement bilingual questionnaires in selected communities, guided by the results from the ACS. A second mailing will be sent to non-responding households and automated field data collection is a device that, along with these others, are steps that will reduce cost and improve quality.

We have also considered other data collection and methods, including Internet data collection. Based on our research, testing, experience, and the knowledge of experience in other countries like Canada and Australia, Internet data collection would not signifi-

cantly improve the overall response rate to the census or reduce field data collection costs.

In 2003 and 2005, census tests offered an Internet response option. And in both cases the Internet response was low and did not increase the overall response rate. It merely diverted some small percentage, about 7 percent, from the paper medium to the Internet, not enough to substantially change our paper collection or field data collection costs.

We are also concerned that utilizing the Internet could jeopardize other planned improvements that we know will save money. At this point in the decade, efforts to develop an Internet response would divert attention and resources from these tested and planned improvements that we know will increase the overall response rate by several percentage points and save money.

A successful census is more than a technical achievement. It is the creation of a national resource that empowers decisionmaking. I hope, Mr. Chairman, you will agree it is a success worth supporting.

I thank you for this opportunity to provide an update to the census and look forward to your questions.

Senator COBURN. Ms. Farrell.

TESTIMONY OF BRENDA S. FARRELL,[1] ACTING DIRECTOR, STRATEGIC ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Ms. FARRELL. Thank you, Mr. Chairman.

Senator COBURN. It is hard to remember.

Ms. FARRELL. I know, and I was warned beforehand, too.

Mr. Chairman, thank you for the opportunity to be here today to discuss the mushrooming costs of the decennial census, now estimated to be over $11 billion, as well as the actions that the Census Bureau is taking to contain those costs.

Let me briefly summarize my written statement that is based on findings from our issued reports, as well as preliminary results from ongoing work that we plan to issue within the next few weeks on the Bureau's efforts to build a complete and accurate address list, the foundation for a successful census.

A cost effective decennial census is a monumental management challenge. It is long-term. The 2010 Census protected life cycle costs spans 13 fiscal years.

It is large-scale. For example, if recruitment goals are similar to the 2000 Census, 2.4 million applicants could be recruited to carry out census operations.

It is costly. As already noted, according to the Bureau, the next census will cost over $11 billion.

It is a high risk, in that the Census Bureau has one opportunity to get it right on April 1, 2010.

Further, we are closely monitoring the 2010 Census to determine if we should put it on GAO's high-risk list.

The sheer size of the census means that small problems can magnify quickly and bit problems could be overwhelming. For example, 60 seconds might seem like an inconsequential amount of time. But

[1] The prepared statement of Ms. Farrell appears in the Appendix on page 72.

in 2000, if enumerators had spent just one minute more at each household during non-response follow-up, it could have added almost $10 million to the cost of the census.

My statement today is presented in three parts. The first addresses the extent to which the Bureau has developed timely and detailed cost data for effective oversight and cost control. Despite a history of cost increases, the Bureau's most recent life cycle cost estimate does not reflect the most current information from testing and evaluation, nor provide complete information on how changing assumptions may affect costs.

Given the cost of the census in an era of serious national fiscal challenges, it is crucial for the Bureau to provide Congress with more complete information such as sensitivity analyses about the likelihood—high, medium, or low—that certain assumptions would drive costs.

For example, for the 2000 Census, the Bureau's supplemental funding request for $1.7 billion in fiscal year 2000 primarily involved changes in assumptions related to increased workload, reduced employee productivity and increased advertising.

The second part of my testimony addresses the progress the Bureau has made to reduce non-response follow-up costs. Since 2000, the Bureau has re-engineered the decennial census and has begun new initiatives to reduce non-response follow-up costs

These initiatives include: One, using only a short form census questionnaire. Two, automating field operations. Three, using a targeted second mailing to households that fail to respond to the initial census questionnaire instead of sending an enumerator to visit houses that have not responded.

These initiatives could reduce the workload and cost of non-response follow-up. While these initiatives show promise, the Bureau will be to address technological challenges with the handheld mobile computing devices that will be used to collect the data for non-response follow-up.

Third and finally, Mr. Chairman, not withstanding the significant progress the Bureau has made to address lessons learned from the 2000 Census, I wish to note several challenges of, if not properly managed, could increase the cost of the census. These challenges include overseeing contractors responsible for conducting key census-taking operations totaling almost $2 billion in contracts; successfully updating address and map files; and assessing the resources that will be needed to update the address and maps for areas affected by Hurricanes Katrina and Rita.

We have made recommendations in our reports for each of these three areas and the Bureau has said that it is taking action on many of them. We will continue to assist Congress in monitoring the Bureau's progress.

Mr. Chairman, that concludes my opening statement and I will be happy to take questions at this time.

Senator COBURN. Thank you.

Let me go to Mr. Kincannon. And I want you to feel free to take time, if you heard something that you do not think is right, Mr. Kincannon, to address it. If you think there are assumptions that were made in her testimony or something I have said, please feel

free to address those issues as we go through. This is about to get the information out so that we all know.

Right now, we are talking about the 2010 Census costing $5 billion more than the 2000. What are the two or three biggest cost drivers in that that would account, other than inflation which is going to be about 25 percent. What are the two or three biggest cost drivers that are accounting for why this thing would increase by $5 billion?

Mr. KINCANNON. Before we go to the second part of your question, our figures indicate that so-called Federal inflation, that is the inflation rate used by OMB to estimate out-year budgets, accounts for about two-thirds of the total cost increase between censuses. So it is not a quarter but two-thirds, unless we have a different set of figures in mind.

Senator COBURN. The last census cost what?

Mr. KINCANNON. The last census cost $7.6 billion in constant 2010 dollars.

Senator COBURN. No, what did it cost in dollars then? You cannot use both sides of the inflation number. If you are going to give me inflation-adjusted, it was $6 billion, $6.4 billion or $6.5 billion.

Mr. KINCANNON. $6.4 billion, if you add together the dollars spent at each year in the 13-year cycle.

Senator COBURN. We are talking 10-year periods. We are talking about the same thing. You are talking about, at a minimum $11 billion, and probably more likely much greater than that.

So we are talking $5 billion.

The American public, if we are going to use cost-adjusted, then we need to use cost-adjusted all the way. And so we are talking real dollars.

The fact is in 2000 dollars, it is a 50 percent increase in 2000 dollars. If you are talking 2000 dollars.

Mr. KINCANNON. If you are talking nominal dollars in 2000 and nominal dollars in 2010, then yes, it would be $5 billion. It is $6.4 billion in 2000.

Senator COBURN. We have had an inflation rate of under 3 percent each year. So at the most, we are going to have 30 percent, or 1.3 times, so you are going to have 33 or 35 percent. Why is it going to cost $2.5 billion more?

Mr. KINCANNON. It costs more because of increase in population, increase in the number of housing units, an increase in the number of people per housing unit, which means that a housing unit is really the unit of work in the census. So those things go together.

The increased difficulty in getting people to respond to Federal surveys or inquiries of any kind.

Senator COBURN. So we know that as a fact, that there is a harder factor to get anybody to respond today?

Mr. KINCANNON. Yes, there are plenty of indicators that it is harder to get people to respond to surveys.

Senator COBURN. And there is no economies of scale? If we have 600 million people, we should keep rising, in terms of the cost per person to count them?

Mr. KINCANNON. It will more than rise, in terms of the cost to count each person, if there are smaller housing units, smaller families living in houses or more elderly living in housing units alone.

The smaller the housing unit, the less the productivity of getting data from each housing unit.

Senator COBURN. The cost per person in 1970 was $1.22. At best, we are talking $36.57 per person, and probably more likely over $40 per person. In 2000 the cost per person was $23.45, which was 130 percent more than in 1990.

I do not think the American people are going to buy the fact that if we doubled the population we would get no economies of scale out of the census organization in terms of the numbers responding. If you are going to mail out a survey, what was your percentage in the 2000 Census, and terms of response to the mailing?

Mr. KINCANNON. It was 67 percent, I believe, housing units mailed back returns.

Senator COBURN. So you would not assume that you would get 60-some percent out of 600 million, as you would out of 300 million?

Mr. KINCANNON. I think we will get a higher percentage out of the mail response in 2010, because we will have only a short form census. And I think people will be more cooperative.

Senator COBURN. So there is cost savings associated with that?

Mr. KINCANNON. It is not relevant to speak of the cost of counting a person because we do not count the person one by one. We count in housing units. So you go to the door with a questionnaire by mail, or in-person if necessary. So that is the relevant unit of cost.

Senator COBURN. So if that is the relevant unit of cost, it costs $56 to do that in 2000 and it is going to cost $88 in 2010, based on your best estimates right now.

And you are going to be using the short form on everybody. So explain to me why that is going to shoot up 50 percent, more than 50 percent, on the cost per household, based on your own estimates of the numbers that you gave the Subcommittee?

Mr. KINCANNON. I thought the numbers that we gave the Subcommittee, put in constant dollars, showed an increase of 35 percent.

Senator COBURN. Let us just talk about dollars. You gave the Subcommittee $56 per household to $88 per household. So that is from $32 to $56. That is a significant increase. I will not quibble with the numbers.

The question is you are going to the small form, the short form. You are going to have more numbers that are going to be returned because it is going to be a short form. How do you explain to the American people that the cost is going up $32 per household over 10 years on a short form now, when a third or 10 percent of them used to be the long form. How do we explain them? How do we justify that?

Mr. KINCANNON. Well, the cost per housing unit is a function of many things. But you have to get to the housing unit, you have to have the mailing list, the address list, the mapping all done. That is a big component of cost. And that is probably the single most important basic phase, as Ms. Farrell pointed out, to making the key, the foundation for an accurate census.

Senator COBURN. I guess probably the reason I am asking these questions is because the planning documents have not ever been

brought forward on how you are assessing these costs? How you are doing it? How do you measure it? How do we get a look at it so that we have a confidence level?

I will tell you that I will be your best friend or your worst enemy when it comes to getting extra money for the census. Because if it is not efficient—every year between now and 2010, we are going to be looking to make sure that the planning and the efficiency that can be gotten is going to be gotten there.

The itemization of costs as a part of the planning document that has been asked for two appropriation cycles, that still is not there, let us just go to that question.

Where is that document? When is it coming?

Mr. KINCANNON. I thought we had provided that information to the Congress in terms of the life cycle cost document, and quite a lot of dialogue about how we put that together and how we updated it. If we have not satisfied on that, then we need to get more specific.

Senator COBURN. I will have staff follow up with you on that.

Mr. KINCANNON. Thank you.

Senator COBURN. Let me make one other point. Welcome, Senator Carper. Glad you are here.

According to our calculations from what we have gotten from you all, the non-response follow-up in 2000, from 2000 to 2010, by your own submission, will cost $1 billion more. But the overall costs are increasing by $5 billion. So if those numbers are right, 20 percent of the increase in costs is for the non-response. What is the other 80 percent?

I know you have $2 billion set inside for all of your mapping and the other programs. What is the other $2 billion?

Mr. KINCANNON. The other $2 billion is composed of changes in the number of people per housing unit, the cost of hiring and paying people, and does not yet even factor in the probable increased cost in security that we will be dealing with in hiring the number of people that we need.

If we have not given you the linkage between how we composed the cost for 2010, then we can do that and we will do that.

Senator COBURN. That will be very helpful to us. I am not sure that we have got that.

I am not going to hold you to this. I just want you to guess. What do you think the highest possible total cost for the 2010 census is going to be?

Mr. KINCANNON. I would not expect a variance in real terms of more than say 5 to 7 percent. And I hope there will not be that much. That is a guess. That is not an administration statement.

Senator COBURN. I understand that and you are on the record as a guess.

Mr. KINCANNON. I think it is important to look back at 2000 and realize that we did not have the kind of careful planning, testing, revision of plans, and systematic moving forward that we have had so far for this census. Among other things, with a year left before the census, the Supreme Court handed down a decision that meant the Administration at that time and the Census Bureau had to completely revise plans on the ground for taking the census. If you do that kind of change late in the cycle, without speaking to the

wisdom of the change or anything else, then you do have sharp increases at the very end. I hope we are not going to have that kind of change again.

Senator COBURN. I hope so, too. The itemization of costs is a part of the planning document, that is one of the things that we want to see is the itemization of how you got there.

Part of our problem, as Members of Congress, is trying to get our hands around an agency that you have your hands around and you are somewhat familiar with. We have to try to become familiar with that. And so more information is better, rather than less.

I think I will stop now and welcome my co-chair, Senator Carper, for a short statement and any questions.

OPENING STATEMENT OF SENATOR CARPER

Senator CARPER. Thanks, Mr. Chairman.

I have no statement that I will give, but I do have one for the record, if I could offer that.

Senator COBURN. It will be made part of the record.

[The prepared statement of Senator Carper follows:]

PREPARED OPENING STATEMENT OF SENATOR CARPER

I want to thank Chairman Coburn for holding today's hearing to examine the costs and the information technology components of the 2010 Census. Although Census costs double every decade, we must remember that the Census Bureau is tasked with an enormous undertaking—to count everyone in the United States. With the ever changing dynamics of the U.S. population, I believe the Cenus Bureau is doing the right thing by using information technology to help stream line tasks in the field.

The questions that we will ask here today are whether or not those initiatives are being implemented in the most appropriate manner and through the most efficient means. Because information technology accounts for nearly 17 percent of the 2010 Census' total costs, poor oversight of various information technology components could have a disastrous affect on the success and cost of the Census. The Census Bureau has the responsbility to immediately address any risks before Census Day 2010.

The Census Bureau has also decided not to offer the 2010 Census online. This is surprising, since e-government is a leading priority for our Federal Government. Various agencies have implemented Internet initiatives to help invididuals better communicate and do business with the Federal Government. This year at the IRS, online tax filing reached record levels.

I look forward to hearing, in detail, the Census Bureau's reasoning for not offering the 2010 Census online and their decision to back-away from the e-government trend. Census Day 2010 is rapidly approaching. We each have a responsibility to ensure that the Census is conducted in the most efficient manner. I want to thank each of our witnesses for your service, and I look forward to your testimony.

Thank you.

Senator CARPER. I suspect the Chairman has already delved into this, but I am going to come back and revisit it anyway.

In the last couple of months, we have witnessed in this country an effort to sign up literally tens of millions of senior citizens for Medicare Part D prescription drug program. A lot of that has been done on the telephone, people call, wait to get somebody on the line and call back and finally maybe get somebody. They call my office, and they probably call Senator Coburn's office, as well, and we try to help, too.

A lot of people, though, signed on to the benefit online. For those who did not have the computer skills were able to find people in their senior center or their family to help them to sign up online.

We have tens of millions of people who file their taxes in the month of April or other times during the year. A lot of those folks did that online, as well.

When I was governor of Delaware, we began filing State taxes, accepting State tax filings, online as well.

I understand that the Census Bureau has considered whether or not there is a business case that justifies doing the census or part of the census online. And I understand that you have concluded that there is not.

I would just ask for you, Mr. Kincannon, to talk about that, particularly in light of the work we have done in other areas involving the Federal Government, Medicare, and IRS.

And then I would ask, Ms. Farrell, if you would comment on it, as well. But Mr. Kincannon, if you would take it first.

Mr. KINCANNON. The Internet is an enticing option and we use electronic reporting extensively in the business data that we collect. Businesses, particularly larger scale businesses, seem to find that a very efficient way of reporting for multiple establishments. So it is not as though we do not use the Internet and other electronic means of reporting when it seems to be received well by respondents.

Almost all of the export data that we collect is collected in an automated form. And both the exporters and the Census Bureau like that very much because it is faster and more accurate, lower in cost for us and for them.

We have tested Internet response to the short form only census because it is short, and it would seem like it would be an easier thing to handle online than an application for Medicare. And certainly—you send in your completed taxes based on commercial software that you file. You do not actually do your taxes online in most cases, although I guess in some cases they may do it with somebody's online system.

What we found is that when we offered respondents, in a test, a controlled test, the chance to fill out the short form online, a few people did. My recollection it was less than 10 percent, 7 to 10 percent. The total response rate of the people responding by Internet and by mail on paper was no greater than the control group. So we did not gain any net response. We did not do any more to reduce the costly non-response follow-up. That is the biggest cost driver in the census, and it is our target for trying to reduce that.

When we conducted a test where we emphasized the importance of responding on the Internet, we sent people a letter or a card, I do not remember which, where we said we want you to complete this form. Go to this site, use this control number so we know who you are and where you are, what your address is. And if you do not have access to a computer or do not wish to use the Internet, call this number and we will mail you a questionnaire.

The overall response plummeted. About 30 percent of people did file on the Internet, but the total response was less than half the universe that we expected.

So looking at our experience there, we do not see that we gain any business advantage of reduced cost or being able to predictably reduce substantially our infrastructure for handling the paper

questionnaires. I do not know why that is, but it is a fact that we have tested that, and that is the indication.

It may be that the paper questionnaire, being only about 8 questions, tests takes about 10 minutes for a family of four to fill it out. The easiest thing to do is just to fill it out and mail it in. Or maybe people decide they are going to do it on the Internet and then do not get around to doing it.

I do not know the explanation.

Senator CARPER. Let me just interrupt you for a moment.

Roughly how much does it cost per household to get them to complete and submit their questionnaire for the census? Can you attribute a cost of that? Is it $50, $60, or $70 for responders?

Mr. KINCANNON. For people returning their questionnaires, for responders? I cannot. Do we know the cost?

I do not know, but let us say it is $10. I do not know what the cost is. You print the questionnaire. You mail it. You pay the postage coming back, and you scan it in. It is very modest.

Senator CARPER. Does that include all of the costs? Is there something missing there?

Mr. KINCANNON. I do not know whether it includes all of the costs. It includes the operational cost of sending out and receiving.

Senator CARPER. I think the Chairman said those are the variable costs.

Chairman COBURN. Those are the variable costs.

Senator CARPER. And are there fixed costs that you are able to——

Mr. KINCANNON. Sure. You have to have the maps, you have to have the tabulating software and all kinds of things to deal with that. And you have to have all of the receiving, scanning, and other kinds of equipment there to do.

If you take responses also on the Internet, you have to have a means of converting those to the same compatible format with this other information.

So that is all fixed costs. You have to do that if you get one back by Internet or two.

Senator CARPER. Let me just continue on where I am going. Could you conceive of a situation where we could significantly increase the percentage of folks who would respond online by offering them, rather than just to say thank you but offering them some kind of financial remuneration for those who responded online?

Mr. KINCANNON. There is a good deal of evidence in survey research literature that offering cash incentives or other kinds of incentives can have an effect on response. But it also costs something.

Senator CARPER. Have you all ever looked at whether or not the amount of remuneration that might be called for would more than pay for itself?

Mr. KINCANNON. I am not aware that we have looked at that on the census. We have examined it and do use incentives on household surveys. And we may have looked at it, but I am not aware of that.

Senator CARPER. Thank you for your responses. Let me turn to Ms. Farrell if I could, and your comments on these issues, please.

Ms. FARRELL. The Bureau raises some important considerations regarding the security of the Internet and the cost savings. As technology has advanced, we know that Federal agencies have found the benefits of using the Internet and other collections. And it should be noted that GAO did put information security on our high-risk list back in 1997. But that does not mean that those obstacles cannot be overcome, and that they should not be explored to be overcome.

We have not seen what the business case is behind the Bureau's decision to drop the Internet. We have asked. We were told that there was not a business case made for that determination. But the decision was a sound business decision.

Senator CARPER. Would you say that again, please? Just repeat what you said.

Ms. FARRELL. In terms of the business case, we were under the impression that the Bureau had developed a sound business case to base that decision to drop the Internet from their contract that was let last October. But when we asked for such information, we were informed that we had misunderstood and that there was no business case that they had actually developed.

I think it is important to note that the Bureau did explore and offered the Internet as an option for the 2000 census, and they had a low response rate. it perhaps could have been because of low advertising. We do not know. We have not seen what the Bureau has done to explore the use of the Internet from 2000.

It has been puzzling to us, as to when the Bureau did mention its use of the Internet in its 2000 life cycle cost estimate, which is a very top level cost estimate without the itemized cost that you are referring to, Mr. Chairman, they referred to it as a possible cost savings. By the time they did a revision 2 years later, they noted that the response rate was not as high as they had anticipated it would be.

But following that June 2003 referral to the response rate not being as high, was included—our understanding, in the contract that was let in 2005 to offer it.

Thus, we just feel that the decision to drop the Internet has raised more questions about what the decision was based on and what the true facts are behind the response rate and how it was offered.

Senator CARPER. We are not the only country that does a census. I presume most of the major countries in the world do a census. I do not know if they do it every 10 years. Can you just give us some idea, Mr. Kincannon, if that is the case?

Mr. KINCANNON. Most countries throughout the world do conduct censuses, some at irregular intervals, some every 10 years, a few every 5 years. Increasingly, countries, particularly in Latin America and some European countries, are moving to activities somewhat like the ACS where a part of the census is taken on a continuing basis and if an enumeration is legally needed, they take that.

A number of European countries no longer take a census. Either they rely on a population register or other kinds of administrative records as a basis for an estimate of population. And they may use

that as a basis for surveys. You know we use our census as a basis sampling frame for surveys.

We do not have a population register. We do not have any consistent or coherent set of administrative records that form the equivalent of a census.

Most European countries, frankly, do not have very dramatically changing populations, either because of natural increase or immigration. So we face a different situation.

Senator CARPER. Let me just ask, if I can, Mr. Chairman, just one follow-up question. Are we aware of some practices that other countries are following what we might want to consider emulating? Are there some best practices out there, that either of you are aware of, that we have borrowed from or maybe we ought to? Particularly with respect to the use of the Internet.

Mr. KINCANNON. We have examined use of the Internet in some other countries, in Australia, New Zealand, and Canada. In some cases they have a slightly higher return rate on the Internet than we have had in our tests. But in no cases, in their view, has it managed to save them money as an offset by increasing total response. Again, I do not know how to explain that, but it does seem to be a similar experience.

Canada offered it to everybody because under Canadian law government communications must be available to people in Internet form, as well as other forms, and in two languages. But they found it cost them more and did not, as my understanding at this stage of things, that it has not increased overall response.

We do look at what other countries do. There are systematic examinations, particularly done through U.N. bodies, where methods are looked at cross-country and shared. And we have, over time, incorporated some of the ways that other countries have improved their censuses and vice versa.

Senator CARPER. Thank you.

Ms. Farrell, anything that you want to add to that, quickly?

Ms. FARRELL. No, we have not looked at other countries. We are aware of the Canadians, but we have not actually studied them.

Senator CARPER. Thank you both.

Senator COBURN. I am a little bit aware. The Canadians just completed their first one. They had a 22 percent participation rate. That is three times what you testified that your test was. And the number that you all tested was, I think you will agree, an extremely small number in your test batch; correct?

Mr. KINCANNON. 250,000 households.

Senator COBURN. 250,000 households. And that was done 2 years ago; is that right?

Mr. KINCANNON. In 2003 and 2005.

Senator COBURN. So it was done in 2003 and 2005.

Mr. KINCANNON. That encompasses the control group and the test groups.

Senator COBURN. So if, in fact, you just had a 22 percent response rate in the United States, you would save $300 million online. You said it is $10 variable cost to mail it out, to have them fill it out, pay the postage and bring it back and then code it in. To do that online, you would save $300 million if you only had 22 percent.

And then you divide that by $80 rather than $88 for a non-responder, and what you get is you can contact another 20,000 homes by the money that you could save, or 25,000 homes—no, 35,000 homes, with the money you could save just if you had a 22 percent response rate.

Mr. KINCANNON. Mr. Chairman, if we got a 70 percent response rate, we could pay off part of the national debt, I suppose. But we do not have that.

Senator COBURN. No, we cannot.

The point is that you are looking at the box as it is today, and I am wanting you to look at the box at what it can be on the Internet. Things have changed between now and 2000, in terms of the response rate. The Internet changes so fast.

And the fact is that most people, if given the opportunity and the inducement, or at least the awareness through advertisement, I would guarantee if you just polled them. Would you rather fill out something online or fill a piece of paper out and put it in the mail, they would much rather—90 percent of the people who are computer literate in this country would rather send it the other way.

So if, in fact, there are savings to be made by a small number, if you only got a quarter of the people doing it, you would tremendously save money both in terms of the variable costs, but also in terms of the non-responder cost.

And so I do not understand why you take at a point in time now and say because we had this one test, that we are going to make an assumption that in 2010 we are not going to use the most modern communication methods that we have, that have all of the potential, and then try to promote them. Rather than to say work we are going to throw this out and we are not going to utilize this system that everybody already has, 74 percent of the households in this country already have this tool.

If you had 74 percent of them, that is 100 million. That is $1 billion that you would save if you could just get them online. That $1 billion would come close to paying for a lot of the cost of the non-responders.

Mr. KINCANNON. The Canadian response rate, calculated in the same terms that we did, would be 14 percent, not 22 percent. If you take it as percent of the universe invited to respond, as opposed to the 22 percent, which is a percent of the actual responders. But still, the point remains.

I would like to know what form your guarantee would take? You said you would guarantee that.

Senator COBURN. A figure of speech.

The fact is, where is the large test to see what you would do? You have done 250,000 people in 2003 and 2005 on a cost project that is $25 million. I mean, $25 million, you can put this package in. And you could utilize—$25 million compared to the cost that you all are going to spend to have a package that would allow people to do this, to me, seems a small price to try that experiment.

And then if you promote it, what about just the $10 per household that you would save on the people that might file? That is not worth it?

Mr. KINCANNON. The Canadians did not save any money either. Did they tell you they saved money?

Senator COBURN. No, we have not finished with the Canadians.

Mr. KINCANNON. We asked them about that.

Senator COBURN. But the point is that this is the first year. Under the leadership that I see now, we are never going to get to the Internet on this because we are never going to be able to say in advance that we can get there.

I would just tell you, step back for a minute and look at everything. People did not used to bank online. You could not trust to pay your bills online. You could not use a credit card online. You could not do any of those things.

If the people would have had the same attitude, we would not be doing any of the stuff online now.

What I am asking you to do is reconsider and relook at this. And I am interested in how is it that we cannot figure out some way to utilize this technology to save us money? And what you all have said is we cannot. You have not said maybe there is another possibility. You have not said maybe our data was wrong. Maybe we ought to take another look at it. You have said to heck with it for 2010. And the next shot we get at it is 2020.

And with the costs rising the way they are, this government cannot afford one penny overspending anywhere because we are stealing it from our grandchildren.

And so for us to totally 180 degrees say no Internet, not going to do it on the 2010 census, says well then, when we get some visionary leadership in 2010, we are going to be 10 years behind.

And what I am saying is there has got to be some minds out there that can figure out how do we utilize this technology in your area of expertise to save this country money?

I cannot believe that we cannot create a way to do it. Whether it is incentivizing, as Senator Carper said. We will give you a $5 Baskin-Robbins ice cream cone credit or something.

Senator CARPER. I was thinking of pizza for four.

Senator COBURN. I do not know. But the point is people respond. And to totally reject that, I am having trouble understanding why that has just been totally taken off the table when everything else we are trying to do is to move to that direction. So to me, it is not computing.

What I hear, even the data that you give us, it is kind of like this: You have responded, in terms of the Census estimated life cycle cost. But there is no detail. You have got total cost, $1,707,000,000. No detail on American Community Service. MAF/TIGER, $534 million. There is no detail where those costs are. All you are doing is listing out what the costs are.

What we are asking for is where are the details of the costs? It is kind of what the GAO has said. What makes it up? Why is that not transparent? Why is it not online for all of us to be able to see what those costs are?

That is where this government is going to move. The American people are going to be able to see every penny you spend at the Census department and why. And the same thing for where the GAO spends their money and why, and where we spend our money and why. It is going to become available.

And so to not utilize this technology sets us back not just for the 2010 census, it sets us back for the 2020 census and the 2030 census. And we cannot afford these cost increases.

And I, quite frankly, do not buy that there is nothing to be gained. I think your testimony is 130 million households that you think we are going to have this time? Is that right?

Mr. KINCANNON. Yes.

Senator COBURN. Three hundred ten million people?

Mr. KINCANNON. Yes.

Senator COBURN. And that there is no efficiency of scale. That there is nothing to be gained by a larger population. It is all totally offset because the mix and the complexity, and there is a rising number of seniors, that cost—and what is the one tool that we know that will not cost much to use, which is the Internet, and we are throwing it out.

Senator CARPER. Mr. Kincannon, before you respond, Mr. Chairman let me just throw something out, listening to this exchange.

I do not know if there is something that they could do, the Census Bureau could do, in conjunction with the Census in 2010 that would enable us to test a number of different approaches to figure out when the next census rolls around in 2020, we will have had an opportunity to find out what works and what does not work, in terms of getting people to migrate to the Internet.

That is just something I would throw out there for your consideration.

Mr. KINCANNON. We can certainly test, and you do not wait until 2010 to decide what you are doing about 2010. You do not wait till 2020 to see if you examine the question of the Internet again.

I think that we should continue testing that in the coming decade and see if we can find ways that either incentivize or people become more accustomed to it.

There are a number of things that I would like to say about what you said. First, in the course of every decade, there is a period of time when you plan, when you test, and then you have to lock everything in. The time when we lock everything in always seems unreasonably early to people who sit up here in this neighborhood.

Senator COBURN. I understand that.

Mr. KINCANNON. But we have, as Ms. Farrell said, we have a high risk situation. We have one chance to succeed. And we have to make sure everything is tested and will work right in 2010.

Even at that, it is a risky proposition because you do not know what may happen, what mood may strike the public and inflame their concerns on some particular aspect of it and make it difficult for you.

We will have natural disasters during censuses, a big hurricane, a volcano exploding, all of these things have happened in Census times. And we have to cope with it. But they never affect the entire country.

So we have tested, and these were extensive, significant tests. They do not show us how they are going to reduce significantly the cost of the census.

And they do increase costs. You talk about we all do online banking. Me, too. I do online banking probably every week, 3 weeks out of 4, at any rate. And I do that with a well established set of soft-

ware and high security that is developed because the clients of that bank use that every week, and any of them every day, I am sure.

We are talking about something that will be used once a decade. That means the investment in security costs particularly are going to be very substantial and not spread over long periods of time.

Senator COBURN. You already have that investment in security on your American Community Survey that you are doing now. That is not secure?

Mr. KINCANNON. We do not accept reports. We tested but it did not work out to use the Internet as reporting.

Senator COBURN. But the point is was there not security associated with that?

Mr. KINCANNON. There is security in the way that we collect——

Senator COBURN. Was there security associated with the other data that you collect?

Mr. KINCANNON. Yes, sir, but that is not the same thing as security on an Internet site. That is a separate set of issues.

Senator COBURN. I am talking about the people who respond to you on the Internet now, like your testimony was earlier, that you collect two different sets of information now that are filed online. Is that not secure information?

Mr. KINCANNON. It is. And those reports come to us on monthly and quarterly and even daily basis. So it is a system that is in constant use.

Senator COBURN. I do not understand if somebody uses something once how that changes the complexity of the security of a system that would make it unusable for people in this country.

Mr. KINCANNON. It is a different system because you are getting different inputs from different kinds of respondents. You would have to build something different for the 2010 census.

Senator COBURN. The number of questions on a census survey is how many?

Mr. KINCANNON. On the short form? It is about eight questions.

Senator COBURN. All right, eight questions. And I want all the Internet designers out there in the world that are doing right now eight questions on 130 million homes, what does it cost, and what is the technology that has already been developed a number of times in this country, what is it banking on, or the IRS or everybody else that has already developed the security.

That is not a satisfactory answer. That data, that technology is already out there. That is a $25 million cost at the most. We have already talked with all the vendors around the country. We spent the time doing it. That is not a satisfactory answer. That is not a reason not to do it.

Again, I just go back, if it is a $10 cost, and it may not be $10. It may be $7. That may be why the numbers do not add up. But if your variable costs in mailing out a censuses is $10 per household, all you have to do is get eight households to file online to totally pay for one that is a non-responder.

If it were me, I would be sitting there looking at how in the world do we get 80 million people in this country, 80 million households, to respond online? In other words, ask the question the other way?

The technology is not a problem. You would agree with that. The technology can be gotten.

Mr. KINCANNON. It can be gotten, but it is not cost-free.

Senator COBURN. No, it is not cost-free but what was the contract cost that you had on the contract that you all terminated?

What was the cost of the contract that you terminated for online Internet census?

Mr. KINCANNON. I am not sure that we terminated a contract.

Senator COBURN. A $7 million contract with Lockheed.

Mr. KINCANNON. We spent $7 million for the first 2 years of work on this with Lockheed.

Senator COBURN. What was the total contract price?

Mr. KINCANNON. The total contract would have been an additional $30 million. But the price to pay for that also meant that they would not be able to provide the DRIS for the dress rehearsal.

Senator COBURN. Do you mean, they could not do both? Lockheed could not do it? Or we just did not negotiate a contract for it?

Mr. KINCANNON. They could not do both in that time schedule within the budget that was appropriated to us, of course.

Senator COBURN. People who file their income tax returns, individuals, do it once a year. Once a year with the IRS, that is all they file. And you know, 70 million of them did that this last April. How do you explain that, when you say people cannot file once a year or every 10 years? They cannot negotiate the Internet to file a census return?

Mr. KINCANNON. Ninety percent of those who filed had a considerable incentive because they were getting a refund. And in addition, they paid $30, $40 or $50 for the software provided by a private-sector firm to fill out. And then they reported to the software vendor, which then relayed it to the IRS.

Senator COBURN. Right, and that is a 30-page form, and we are talking about a single page form with eight questions on it.

Mr. KINCANNON. Yes.

Senator COBURN. So the cost difference is not there. I am still astounded.

Mr. KINCANNON. The cost for that kind of filing is paid for by the filer of the taxes.

Senator COBURN. Let me go back and ask a question. What is wrong with this question? How is it that we, at the Census Bureau, figure out a way to reduce the cost by incentivizing online filing or online participation with the census, so that we have a greater participation, less mail out, and less non-compliance? Where is the answers to that?

Mr. KINCANNON. The answer to that is in 2011 and 2012, not in 2010. We do not have time to test and prove and rehearse with a significantly changed method of taking in the data.

Senator COBURN. When did we start looking at online?

Mr. KINCANNON. Before, in 2001, I suppose because we——

Senator COBURN. You had a sample on it in 2000.

Mr. KINCANNON. Yes, then we looked at it before that. We had that evidence. I thought you meant for this decade.

We started probably in 2001 getting ready for the test in 2003, which was the first of the quarter million size test of Internet.

Senator COBURN. There is some question about your handheld devices for your enumerators and the accuracy and efficiency of those. Could you address those for me and tell me where we are?

Mr. KINCANNON. Yes, Chairman. We have awarded a contract this spring to the Harris Company to develop the handheld devices that will meet our requirements and will be tested in the dress rehearsal and used in 2010. We used devices that we made ourselves for testing leading up to that, so that we could test the different aspects of using it.

The devices we built were far less efficient than those that can be provided by the private sector, but we learned from those tests: A, that someone else could do that task for us better than we could do it; but B, that the functionality could be handled on handheld devices both for address listing and update, for payrolling, for sending maps to enumerators, for revising their day's assignment for non-response follow-up based on late receipts.

In the test in Austin, we saved useless calls on people, 17,000 cases, where households had sent their questionnaires back late. And so that saved more than—proportionately more than the Internet would save, if you are looking at that.

Senator COBURN. So do you have a functioning model that works today?

Mr. KINCANNON. We had a functioning model that was used in the test census in——

Senator COBURN. It was made by Harris?

Mr. KINCANNON. No, we made that. I do not know who made it.

Harris made it but it was not a production model, not the model that we want for the census.

Senator COLEMAN. That is all going to be automatically downloaded; right? You are not going to hand-download that? That is going to go to a computer and be downloaded; right?

Mr. KINCANNON. It will go to the computer and be downloaded, at the end of every workday, either wirelessly or overland line, depending on the circumstance and working conditions of that enumerator.

Senator COBURN. What happens if they do not work? What is your plan B?

Mr. KINCANNON. They will work. They have worked. You might as well ask me what happens if the Postal Service refuses to deliver the census forms.

Senator COBURN. I am not asking it facetiously. I am asking you what happens if there is a computer glitch and these handheld devices do not work? What is the plan B?

Mr. KINCANNON. The computer devices have been tested and proven to work.

Senator COBURN. All I want you to do is answer my question. What if they do not work?

Mr. KINCANNON. We have a big problem then.

Senator COBURN. So are you going to have to hire more people to do the non-response?

Mr. KINCANNON. I do not believe that condition will obtain, so I do not——

Senator COBURN. So there is no planning. So, as we have talked about this planning of what-ifs and——

Mr. KINCANNON. We could hire more people. Yes, we could hire more people, sir.

Senator COBURN. Is it not true that GAO has said that this handheld device is a huge risk in their testimony?

Mr. KINCANNON. I do not know the precise formulation of words, but they say there is a risk associated with using handhelds.

Senator COBURN. So your testimony is to me that there is no alternative plan if that does not work?

Mr. KINCANNON. We have no reason to believe that there is any systematic risk in all the handhelds. That system will work.

Senator COBURN. Your testimony today is if that does not work, if GAO's concerns happen to be borne out, there is no alternative plan if it does not work?

Mr. KINCANNON. We would have to hire more people to conduct traditional pencil and paper non-response follow-up?

Senator COBURN. As we did in 2000?

Mr. KINCANNON. Yes, and 1940.

Senator COBURN. GAO has raised some concerns about the level of transparency within your budgeting process. Do you believe that your budget estimates are adequately transparent for long-term planning for you, but also for us to watch you and look at you?

Mr. KINCANNON. I think we can always have improvements in transparency internally for planning, and we endeavor to improve the collection of cost data, the documentation of cost data. But I am sure we still have room for improvement. I do not know, apparently we have not provided to this Subcommittee the degree of transparency that they want.

We have provided a lot of information to the Appropriations committees on both sides, and maybe that same information could be useful to this Subcommittee.

Senator COBURN. Let me raise just a couple of other questions and then I want Ms. Farrell to comment on it.

You all have a PART evaluation, as every agency within the Executive Branch has. The PART assessment had some concerns that Census Bureau managers are not held accountable for cost containment. Is that a legitimate criticism? And if so, have there been steps made to adjust to that?

Mr. KINCANNON. I do not recall that particular finding but I believe that managers in the Census Bureau are held accountable for cost containment. But that is a principle that we try to follow. We do not give money to people in plain brown wrappers for them to spend without accountability for doing that.

Senator COBURN. I do not think that is what they are talking about. They are talking about systems. The PART assessment is do you have the systems and control to be able to effectively manage and measure and to have performance measurements to know whether or not you have cost containment and whether or not somebody is managing something effectively.

Mr. KINCANNON. I think that we do for large programs and for continuing programs, in general.

Senator COBURN. Thank you.

Are there going to be any consequences—and again, not holding you to your 7 percent, let us say 10 or 15 percent. Are there any consequences if you run to $15 billion? Should there be any con-

sequences to the management inside the Census Bureau if it cost $15 billion instead of $11.3 billion?

Mr. KINCANNON. I would think so, yes. That seems reasonable.

Senator COBURN. OK, that is a great answer.

Mr. KINCANNON. I mean, what do you want me to say? Detail the punishment or retribution or the guidance or what?

Senator COBURN. What I am looking for is you have got a PART analysis that says you do not have great management systems in place to measure cost containment. And if you do not, and that is the assessment by the CFOs that look at the PART of each agency. They have this wonderful color-coded network and they are measuring performance on how everybody is improving every year to try to get to the point is if there is no consequences—in other words, should somebody be promoted? Should somebody not be there anymore if, in fact, we do not have good management. That is the question I am asking you.

The philosophy is yes or no. I am just asking is there the management tools in there to say—you know it is the expectation of being held accountable. Just like you guys are going to be back here in 8 months to answer some of these questions and see where we are. Because we are not going to spend $4 billion more to do this. We are not going to do it. The next two generations are not going to pay for inefficiency in the Federal Government.

So the question is should there be accountability? Is there line management? Is there structure? Are there management tools there to measure? To know before costs get out of control that you know ahead of time that we are getting ready to lose control of costs?

That is what the PART assessment is. It is not about personalities, it is about systems.

Mr. KINCANNON. I do not think it is about personalities. I did not say it was about personalities.

I will look at that particular PART finding. I am not aware that is there, but I will take a look at that and try to understand it better.

Yes, I do think there should be——

Senator COBURN. When was the last time you looked at the PART system on your agency?

Mr. KINCANNON. About 2 months ago.

Senator COBURN. And you did not notice that was there?

Mr. KINCANNON. I looked at summary level PART reporting, yes.

Senator COBURN. Ms. Farrell, if you were to look at the Census Bureau right now, from what you all have looked at, and looking at costs for 2010, is there any one particular thing that you would recommend be done to control costs that are not being done today?

Ms. FARRELL. It is back to what we have been discussing with transparency. It is difficult for us or for you to know where the Bureau is in their planning without more information behind how that $11 billion was comprised.

At the same time, I do think it is important to note that the Bureau has designed this census earlier in this decade compared to where they were at the same point with the last 2000 census. But the question is, we do not know if that $11 billion, if it is over. It

could be under. We really do not know because we have not seen what is behind it.

Half of the costs are in the field data collection mechanisms. And what Dr. Kincannon said about the non-response is true, that non-response is probably one of the biggest drivers of the cost.

So if you can get hold of that and find out why people are not participating or why it is so difficult to find them and make those corrections, you stand a better chance of increasing your response rate.

Senator COBURN. It would make sense though, with the short form being the form used this time, that the response rate should climb significantly.

Ms. FARRELL. The figures that the Bureau shared with us showed that the short form would probably increase the response rate, I believe, by 1 percent.

The bigger bang for the buck is going to be with the targeted second mailing, which I think could be 7 or perhaps greater percentage in increasing that non-response rate.

Senator COBURN. One concern I had, in reading your testimony and looking at this, is let us say we are about to get started planning. You are a year away from the 2010 census. And let us say we have the same unemployment rate that we have today. Where are you going to get 500,000 people to work on the non-responders? And what are you going to have to pay for them? That is a real problem that you are going to be faced with.

Mr. KINCANNON. Well, we are still 4 years away and I am not aware that anybody is predicting the unemployment rate in 4 years. If the labor market is very tight, it will cost us more to hire people. It cost us more in 2000 to hire people.

But we live in a market economy. And if labor is tight, then we will need to pay to get that. We do not have any other source of labor than paying people a reasonably close to market rate.

Senator COBURN. Typically, the people that you hire, are they underemployed somewhere else, unemployed or retired? What is the mix of the people that you utilize in this non-responder army that you have?

Mr. KINCANNON. I do not have any statistical information at my fingertips and I am not sure how thorough that is anyway. We do attract people into the labor force who are not in it, people who are retired, in some cases. People have rather long retirements in this country now, and they like to do something that is interesting and constructive for a period of time.

There are still not 100 percent of working-age women engaged, and some like to come back to work for a while. Some use it as a reentry point after childbearing years. There are still women who stay at home and take care of their children and they want a reentry and they find that useful.

There are young people who may not have a very good job and they want to add something to their resume.

This does not necessarily apply as much to the people working for a short period on non-response follow-up, but we still have tens of thousands of jobs that last a year or more in office work. So there are a variety of sources there.

A lot of this work, the large number of people that do non-response follow-up, basically have to work in late afternoon, evenings, and weekends. So it is a second job.

Senator COBURN. So they can catch people at home.

Mr. KINCANNON. Yes, that is right.

Senator COBURN. I want to thank each of you. I want to give you, especially you, Mr. Kincannon, an opportunity to say anything that you want to say, and offer for the record anything where we have had a disagreement or anything, to make sure that you can put in what you want to have in the record to balance out anything where I might not have seemed fair or been fair with you.

Mr. KINCANNON. I think you are a hard salesman in your point of view. I would not call you unfair, at least not on this day.

Senator COBURN. A lot of people do, so it is fine.

Mr. KINCANNON. You are coming from a certain point of view and you push at it very hard. That is all right.

I think that we have tested fairly the Internet possibility for response at the time that we had to make a decision for what we were going to do with that. That does not mean we foreclose that possibility in the future. And it may be that it will work better and we will learn better ways of incentivizing it in the future.

I do not know whether the Congress as a whole would agree to incentivize something that is already a mandatory requirement in the law, but that will be your job maybe to sell that.

So I disagree with your point of view that we have out of hand rejected something. We have tested it and not found it produced results that justified our going down that path.

I believe that we have constrained cost in the census. And looking at the table of figures put into 2010 constant dollars, the housing unit cost increase in the decade of the 1980s leading up to the 1990 census was half that of the increase in the previous decade. I was Deputy Director in that period. I did not do that alone, but a lot of people working in the Census Bureau were conscious of the need to constrain growth in costs. And we were successful.

This may not meet your standard, but still it is cutting in half the rate of increase. And the projected rate of change for——

Senator COBURN. It is. Our chart shows that, as well.

Mr. KINCANNON. So I think we have shown that we can be effective in constraining costs. It does not look like we or the Congress or whatever, the government, was as successful in doing that in the lead up to the 2000 Census. So it shows we can do that and we should continue to be as effective as we can. And avoid late changes in the way that we are going to process the census.

Senator COBURN. Which have big impact on your costs.

Mr. KINCANNON. Yes.

Senator COBURN. Let me clarify something, just so those that work with you and your agency. I do not doubt the desires at all or the work ethic of the people who are there. We have a big problem in our country and we have got 9 years to fix it, a big asteroid, a financial asteroid is going to hit this country at 2016. And we cannot just look at the census. We have to look everywhere.

You are not the only agency. This is our 36th hearing on oversight on waste, fraud, and abuse. How do we do it better? How do we get accountability, transparency, results? So it is not about the

Census Bureau or their employees. it is about how do we get and create the same opportunities for our children and our grandchildren?

I appreciate the fact that you have spent a lifetime of service to our country. And my questioning you does not demean that at all and it is not meant to do that, nor any of your employees.

And I know a lot of the volunteers that worked in Oklahoma in the last census, and they put in a lot of time. They were happy to do it and felt a great part of our country.

Nevertheless, every penny, every day that we can save is a standard of living change for our children and our grandchildren. And so we are not going to let up. We are going to keep working it. We are going to keep coming back. We are going to be still hounding you, asking questions.

And we do want details. Sometimes inside the forest you cannot see the trees. And so different perspectives. My staff changes mine all the time when I am asking questions and they are asking questions of me.

But this idea of transparency. Where do you get your budget numbers? What makes them? What are the assumptions that make those up? What are the components? Why cannot GAO see that? Is there a reason they cannot have that? Is there a reason we cannot have that? What is wrong with that? We have to create that kind of transparency.

So your service is appreciated and the fact that what you are doing is very important. We understand that. We are anxious that it be done right but also efficiently.

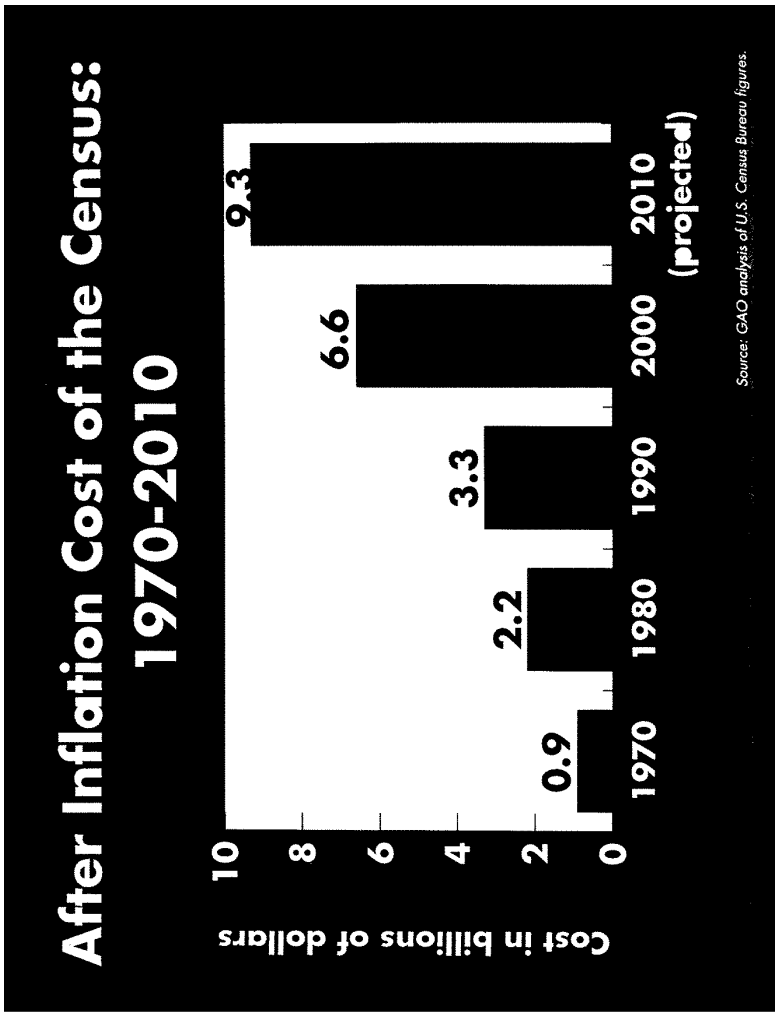
Ms. Farrell, any comments?

Ms. FARRELL. Sir, I just would like to thank the Bureau for the cooperation we have received from them as we continue to monitor their activities, and to emphasize that we do agree with the Bureau that at this time any significant change to the design could increase costs. But it does not mean that we cannot still be looking for ways that there could be a greater payoff down the road.

Senator COBURN. Thank you all, very much. The hearing is adjourned.

[Whereupon, at 3:57 p.m., the Subcommittee was adjourned.]

APPENDIX

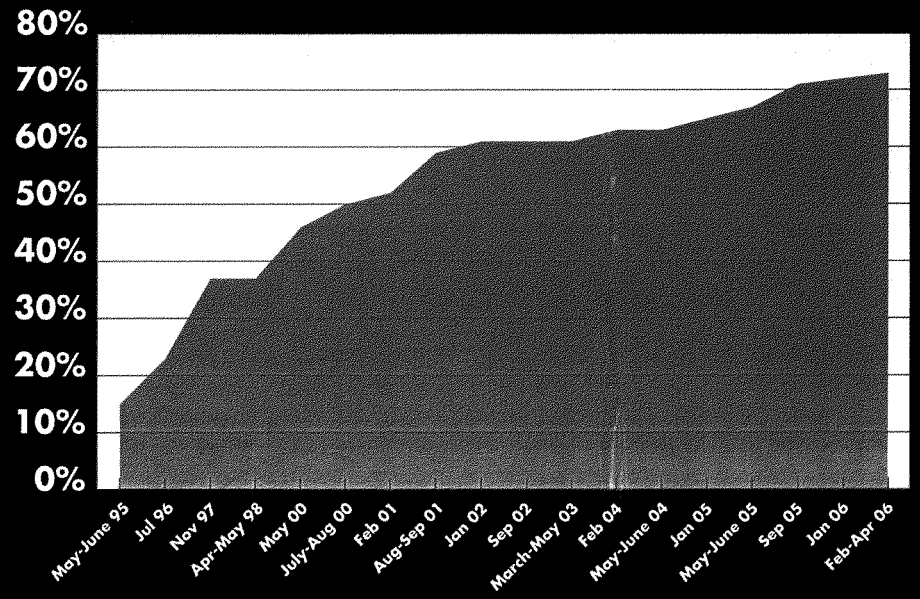

After Inflation Cost of the Census:
1970-2010
Cost in billions of dollars
10
8
6
4
2
0
0.9
2.2
3.3
6.6
9.3
1970
1980
1990
2000
2010
(projected)
Source: GAO analysis of U.S. Census Bureau figures.

Cost of the Census: 1940-2010

Census Year	Total Cost of Census (in thousands)	Increase Over Previous Decade
1940	$67,527	---
1950	$91,462	35%
1960	$127,934	40%
1970	$247,653	94%
1980	$1,136,000	359%
1990	$2,500,000	120%
2000	$6,300,000	152%
2010	(est.) $11,300,000-???	79%-???

Source: GAO analysis of U.S. Census Bureau figures.

Percentage of U.S. Adults Online



Source: Pew Internet & American Life Project Surveys, March 2000–April 2006.
All surveys prior to March 2000 were conducted by the Pew Research Center for the People & the Press.

PREPARED STATEMENT OF
CHARLES LOUIS KINCANNON
DIRECTOR
US CENSUS BUREAU

The 2010 Decennial Census Program

Before the Subcommittee on Federal Financial Management,
Government Information and International Security
Committee on Homeland Security and Governmental Affairs
U.S. Senate

6 June 2006

Good morning. On behalf of the U.S. Census Bureau, I want to thank Chairman Coburn and Senator Carper for the opportunity to provide the Senate with an update on our progress on the reengineered 2010 decennial program. The reengineered 2010 decennial program comprises three integrated components: the American Community Survey, which will provide timely, accurate data for states, towns, and even neighborhoods; the Master Address File (MAF) and TIGER Enhancement Program, which will serve our nation by updating the address list and modernizing the electronic maps by which we collect and disseminate census data; and most importantly the 2010 Census, a short-form only census, which is the Census Bureau's core constitutional responsibility.

As you may imagine, the decennial program is the Census Bureau's largest activity and its highest budget priority—in fact, it is the nation's largest peacetime mobilization and is mandated by Article 1, Section 2 of the U.S. Constitution. However, the Census Bureau collects other censuses and surveys that contribute to the nation's statistical system. These include the Economic Census that catalogues the nation's economy by collecting business information, including number of employees, payroll, receipts, and product line revenues. The Economic Census is a detailed profile of the U.S. economy — from the national level to the local level and from one industry to another. The Economic Census is conducted every five years, for years ending in '2 and '7. The Economic Census provides information on over 23 million businesses and 96 percent of the nation's economic activity, including data for over 1,000 different industries, including 8,000 manufactured products and 3,000 merchandise, commodity and service lines. These data inform economic and financial decisions in the private sector, as well as the federal, state, and local levels.

In addition to the decennial and Economic Censuses, the Census Bureau also collects other data, such as the Current Population Survey, the American Housing Survey, and the Service Annual Survey. These surveys provide information about a range of topics, from public finances to unemployment to housing conditions. Data from these censuses and surveys inform policy decisions at the federal level. All of these programs and the data they produce go to support a complex information infrastructure. This infrastructure supports informed decision making. Moreover, data such as these perform an important service to the American taxpayer because they provide accurate measurements of public needs and program effectiveness.

In fact, there is an increasing need for such data at the local level. The Economic Census and the decennial census provide such data. Yet, one of the historic limitations of the decennial census is that the information grows stale and increasingly less accurate as we move further from Census Day. The American Community Survey, one of the components of the reengineered 2010 decennial program, addresses this limitation. The American Community Survey is the most important evolution for the decennial census in over 60 years. The American Community Survey was fully implemented last year with the support of Congress and replaces the long form of the census—an important and crucial step in realizing a short-form only census. In the past we collected long-form data in the context of the decennial census. It was costly and it undermined our effort to conduct a basic enumeration. Now with the American Community Survey, we will collect the detailed data for socioeconomic characteristics over the course of the decade providing yearly, up-to-date information to federal users and our nation's communities.

The American Community Survey collects information such as educational attainment, income levels, housing values, and other socio-economic and housing characteristics. Every question on the American Community Survey is mandated by law or fulfills federal requirements. With a three-million-household sample every year, approximately 250,000 households per month, the American Community Survey will deliver data to governments with populations of 65,000 or more beginning in August of this year. As the survey continues, we will publish long-form type data for places of 20,000 or more in 2008 and for all other areas, including census tracts, in 2010 and every year thereafter.

The American Community Survey is an important development providing timely data for states and local communities, replacing the old system that delivered data once a decade. These data are required to carry out an array of federal mandates, including the Voting Rights Act. The answers to population and housing questions support programs such as No Child Left Behind, Low Income Home Energy Assistance Program, and community block grants. These data support programs that are important to local communities such as Wilmington, Delaware and Tulsa, Oklahoma. The American Community Survey will provide timely, accurate information for every county, city, and neighborhood—the level where the most crucial decisions affecting American communities are made. American Community Survey data will help city and community leaders in Milford, Delaware and Wagoner, Oklahoma, and at the

same time, allow the Census Bureau to focus its efforts in 2010 on the core, constitutional responsibility to conduct the enumeration.

The success of the 2010 reengineered census program effort will also depend on the MAF/TIGER Enhancement Program, an extensive, nation-wide operation to modernize and consolidate MAF/TIGER. MAF/TIGER is essential to the American Community Survey and the decennial census. The MAF is the address list that furnishes us with a list of households to mail questionnaires to or to contact as part of the other enumeration operations. TIGER—the street map for the census—is a digital geographic database that includes complete, consistent coverage of the United States and its territories. We use these tools to organize our work. The MAF/TIGER Enhancement Program is a multi-faceted effort, taking advantage of well-established technologies, such as Global Positioning System (GPS) capabilities, to improve the outdated, error-prone map system currently in place. We are working to align streets of the TIGER maps in order to exploit GPS capabilities and we are expanding our geographic partnerships with state, tribal, and local governments. To date, we have realigned the streets and roads for approximately 1,700 of the nation's counties, with about 1,600 more to go in order to reach completion by April 2008.

This improvement program, along with other geographic activities, is important because ensuring the accuracy of the spatial location of the addresses is the only guarantee that political representation and resources can be distributed fairly, as they are allocated to geographic entities — states, cities, towns, census tracts, and blocks. The need for accuracy underscores the unique nature of the American census, and our constitutional and legal obligation to ensure the accuracy of the census. To collect high quality, timely, consistent data in a nation as diverse as ours is a challenge. I'm not only speaking in the sense of its difficulty, but also of the value and importance of this task. The challenge was issued in the Constitution of the United States, which states that an "actual enumeration shall be made within three years after the first meeting of the Congress of the United States, and within every subsequent term of ten years." Starting in 1790 through today, we have honored the promise made by our Founders to ensure fair representation.

Our overriding goal for the 2010 Census is to improve the coverage and accuracy of the census; and we have developed a rigorous planning and testing program that includes many long-sought census improvements, such as bilingual questionnaires, a second questionnaire mailing, and targeted census coverage follow-up programs.

One significant improvement is automation and infrastructure. Part of our efforts have centered on two major systems, the 2010 Decennial Response Integration System (DRIS) and the Field Data Collection Automation (FDCA) system. Both of these are large information technology (IT) contracts, totaling together over one billion dollars. The purpose of the DRIS contract, which was awarded last year to Lockheed Martin Corporation, is to ensure accurate and protected collection and storage of Americans' data whether by paper form, hand-held

computer, or telephone. We are currently involved in Phase I of this program, which includes design and implementation of the system for the 2008 Census Dress Rehearsal.

For the 2010 Census, the Census Bureau also plans to increase the use of automation to directly capture information collected during personal interviews in non-response follow-up and eliminate the need for paper maps and address lists for the major field data collection operations. The FDCA contract was awarded this spring to the Harris Corporation. It provides automation resources to support field data collection operations, including an integrated IT infrastructure, as well as support for mobile computing devices and other aspects of the field activities.

The census testing program, as well as the Dress Rehearsal, is also central to our efforts. This year we are conducting the final Census Test in Travis County, Texas, and on the Cheyenne River Reservation in South Dakota. These sites provide an environment to further test and refine census operations and activities, such as the use of GPS-equipped hand-held computers and a replacement, second mailing of the questionnaires to nonresponding households. We will also focus on enumeration methods within an American Indian community, finding ways to improve coverage and testing improved self-response options. The testing program is valuable because it allows us to test operations separately in different environments to determine whether these operations can be used in census-like conditions and to prepare for the Census Dress Rehearsal.

We strive to make operations in the Dress Rehearsal closely resemble the actual census. We will conduct the 2008 Dress Rehearsal in two locations, San Joaquin County, California, and in Fayetteville and Eastern North Carolina, opening Local Census Offices in Stockton and Fayetteville. The Dress Rehearsal will feature the technology we plan to use in the decennial census, including the various data collection operations that are being developed through DRIS and FDCA. We will include a second mailing to encourage households to respond and potentially reduce the costly non-response follow-up workload. We will use a targeted mailing of Spanish/English bilingual questionnaires which were successfully tested in the 2005 National Census Test.

All of this underscores the importance of congressional support for all aspects of the 2010 Decennial Census Program, from the American Community Survey to the Dress Rehearsal. Thousands of individual operations and procedures must be successfully implemented before Census Day, less than four years from now, in order to ensure the success of the 2010 Census. The decennial census, as I mentioned before, is the largest peacetime mobilization undertaken by the government. It is our responsibility to count every community, every street, every household, and every person. It is, therefore, necessarily a complex and expensive task.

To fully understand the costs it is worthwhile to consider the scope of this task. To conduct a census of every household in the United States for Census 2000, the Census Bureau sent questionnaires to more than 117 million households and printed more than 1.5 billion pieces of

paper. Approximately, 67 percent, or 80 million, of those households responded by mail. For the rest, we sent census takers, or enumerators, to collect the census information. We opened 520 Local Census Offices and hired more than 860 thousand temporary workers to conduct the census. For 2010, we are projecting there will be more than 310 million people living in America and that we will have to count more than 130 million households.

The President's FY 2007 budget request for the Census Bureau is over $800 million dollars. This request includes approximately $184 million for salaries and expenses, as well as $182 million for other economic and demographic programs conducted by the Census Bureau. The majority of the budget request— $512 million—is for the decennial census program. This is an increase of $64 million from last year and includes $180 million for the American Community Survey; $74 million for MAF/TIGER; and $258 million for 2010 Census activities. Over the course of the decade, or the decennial life cycle, we expect the reengineered census will cost more than $11 billion. (An attached document, *Estimated Life Cycle Costs for Reengineering the 2010 Decennial Census Program,* provides further explanation of these costs.) This figure includes the cost of yearly data from the American Community Survey, the MAF/TIGER Enhancement Program, and the short-form only 2010 Census. It is also true that this figure is considerably higher than the cost of Census 2000. However, the rate of increase, about 50 percent (30 percent after inflation), is much less when compared to previous censuses.

We must also consider that our increasingly diverse population is more difficult to count. In addition, experience reveals that people have become more resistant to answering surveys and providing information to the government. As we plan and test new data collection methods, we try to make reasonable calculations about the impact they will have on public cooperation and the overall response rate, since the non-response follow-up operation is truly the cost-driver for the census. We have successfully tested and plan to implement bilingual questionnaires in selected communities; a second mailing to non-responding households; and automated field data collection.

We have also considered other data collection methods, including Internet data collection. Based on our research, as well as our own experience and knowledge of the experiences of other countries, we do not believe Internet data collection would significantly improve the overall response rate or reduce field data collection. The Census Bureau offers an electronic response option for the Economic Census and other economic surveys and we generally obtain high response rates. It is altogether different, however, when we consider household and population surveys and censuses. The 2003 and 2005 Census Tests offered an Internet response option, and in both cases, the response rates were low, and offering an Internet response option did not increase the overall response rate. We have also consulted the statistical offices of Australia, Canada, and New Zealand. Each of these countries utilized the Internet in their most recent censuses. The Internet response rate ranged from 7 to 15 percent of the total response. Each of the statistical offices indicated that it was not possible to accurately anticipate the response rate, and that ultimately using the Internet did not affect the overall response rate. Anticipating the response rate has important operational considerations. Because they were unable to accurately

anticipate the Internet response rate, the other countries were unable to reduce the paper data capture operations out of concern they would not have the capacity to fully process the census responses. This would be true for the Census Bureau as well. Moreover, while the Internet response option did not reduce the overall cost of data collection, and the cost for some specific activities, such as security and server capacity, increased.

We have seriously considered the lessons our colleagues have learned. We are also concerned that utilizing the Internet could jeopardize other planned improvements. At this point in the decade, efforts to develop an Internet response option would divert attention and resources from tested and planned improvements such as the second mailing—which we know can increase the overall response rate by several percentage points. It is also important to keep in mind that the 2010 Census utilizes only the short form. There are very few questions in this form, and most can be answered by checking a box.

A successful census is more than a technical achievement; it is the creation of a national resource that empowers decision making. The decennial census, including the American Community Survey, is a national resource—available to everyone. It is also important to remember that when we make data available, we have taken every step we can to protect the confidentiality of those data. The data we produce do not reveal individual identities. This is a legal requirement applicable to every household and business from which we collect data, including every person in the American Community Survey. At the Census Bureau, every person takes an oath not to disclose the data we collect. In fact, violators are subject to stiff fines and imprisonment. Every person is sworn for life. I took this oath over thirty years ago when I first came to the Census Bureau. It is an oath I honor and that the Census Bureau takes seriously because we believe this requirement is critically important in our society. People do question government motives and want to protect their personal privacy. Our most important relationship is with the respondent, because good data depends on their trust and their willingness to provide answers.

In fact, the trust of our respondents and your support are the most essential ingredients for the success of the decennial census; and I hope, Mr. Chairman, you will agree that it is a success worth supporting. I thank you for this opportunity to provide an update to the Senate and I would be happy to answer your questions.

Potential Life Cycle Savings for the 2010 Census

June 2001

The attached document describes the process for re-engineering the 2010 Census. The cost figures included in this document are based on preliminary planning assumptions and are subject to change. As we continue through the decade with the planning process, we will measure changes in assumptions and other factors that impact costs. The final cost of the 2010 Census will be influenced by the budget process.

June 2001

Potential Life Cycle Savings for the 2010 Census

Overview and Summary

The Census Bureau's strategy for the 2010 Census is to reduce operational risks, improve accuracy, provide more relevant data, and contain cost. There are three interdependent components of this strategy:

- modernizing the **Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) system** (the Census Bureau's geographic database and address file),
- implementing the **American Community Survey** (to collect the long-form data on an annual basis), and
- systematically developing and testing a **2010 Short-Form-Only Census** design that takes advantage of the opportunities offered by the MAF/TIGER and ACS.

These activities are highly integrated, complement each other, and form the basis for re-engineering the 2010 Census. It is recommended that these activities are adopted as a complete package–one will not work to its full potential without the others.

The life-cycle costs and benefits presented in this paper estimate that if all three components are implemented for the 2010 Census, the net savings to the government would be approximately $445 million compared to repeating the design of Census 2000. To achieve this, the government needs to invest approximately $2.4 billion over the decade in order to realize gross savings of about $2.9 billion. The details of the needed investment and the resultant savings are covered in the rest of this paper.

Note that the estimates are based on early planning scenario analysis. The estimated cost figures and benefits combine cost modeling with the insights of key Census 2000 staff, and other Census Bureau experts, who have identified factors

most likely to yield potential improvements for the 2010 Census. The results of Census 2000 evaluations and early 2010 testing will provide more information that could modify these estimates.

As part of the 2003 budget preparation, the Census Bureau is conducting a comprehensive business case analysis to: (1) examine alternative benefits derived from each of a combination of 2010 components; (2) flesh out component-specific details, including the MAF/TIGER modernization, and an assessment of the first nationwide implementation of the ACS; and (3) integrate the results from the ongoing assessment of Census 2000. Resulting cost and relationship analyses will be reflected in the detailed business case to be completed in support of the FY 2003 budget submission.

Introduction

Given the rapid demographic and technological changes seen in recent years and the strong expectation that such changes will continue and accelerate, once-a-decade data collection and updating operations are no longer sufficient. Without a more systematic, timely and integrated planning and design strategy, the data collection mission of the Census Bureau – especially the decennial census – will be jeopardized. To meet this challenge, the Census Bureau has adopted an integrated strategy: (1) implementing the American Community Survey (ACS) to provide more timely demographic data while simplifying 2010 collection operations; (2) enhancing the MAF/TIGER system through modernizing and continuous updating; and (3) systematically developing components of a 2010 Census design prior to early operational testing. These three areas are highly integrated, complement each other, and form the basis for designing the 2010 Census strategy.

The Census Bureau strategy requires adequate early funding to avoid higher costs and risks later in the decade. Without early funding, the 2010 census will include the long form, and will not take advantage of the technological efficiencies and gains of an improved integrated approach. The alternative–assuming that Census 2000's operational successes can be repeated despite inadequate early planning and testing of operations–at worst would be infeasible and, at best, would require an unacceptable level of cost and risk.

The Census Bureau estimates that early planning, design, and testing applied to a short-form-only census, along with enhanced functionality and accuracy for the

MAF/TIGER system, would generate net savings of about $450 million over the 2010 Census life cycle. Such savings come, for example, from expanding electronic collection of data through the use of GPS-linked hand-held devices for enumerators to collect nonresponse follow-up data and by expanding the use of the Internet. Such technological improvements are only economical with the elimination of the long form from the census, which reduces data collection requirements. While life cycle cost savings are more than enough to justify this proposal, hard-to-quantify positive impacts on states, localities and tribal partners, users of the data, and other U.S. Census Bureau programs are nearly impossible to quantify, yet will contribute to the true value.

The Strategy for 2010 Harnesses Synergy Among Key Programs

The strategy for the 2010 Census is to provide the best mix of timeliness, relevancy, quality and cost for the data it collects and services it provides. The Census Bureau has concluded that this cannot be accomplished without a comprehensive, integrated approach developed even earlier in the decade than the approach taken for Census 2000.

The Census Bureau has concluded that in order to be successful, it must *increase* the currency of detailed housing and population data but must *decrease* the decennial census operational complexity. Therefore, the overall goal for the 2010 Census is to reduce census operational risks, improve accuracy, provide more relevant data, and contain cost.

The goal will be accomplished by moving the two most detailed, and therefore, volatile functions – building the address system and collecting long-form data–from the 2010 decennial census data collection to ongoing, corporate initiatives and by developing and testing the 2010 design early in the decade by taking advantage of the opportunities offered by the MAF/TIGER and ACS.

MAF/TIGER Improvements Ensure Complete, Accurate Address Frame

The current MAF/TIGER address and mapping system has been in use for 15 years It is a homegrown system, incompatible with other related geographic information systems. Further, while address building and TIGER updating occurred to a limited extent over the decade leading to Census 2000, the major updating activities occurred during 1998-99 and involved expensive, complex, labor-intensive field operations. Despite these activities, MAF/TIGER is unable to

accurately locate addresses with the precision required in rapidly growing communities outside central cities. This includes identification of duplicate entries that were evident in Census 2000. Given the criticality of an accurate address file to the success of all Census Bureau censuses and surveys, continuous updating and modernization are essential.

The MAF/TIGER initiative: (1) incorporates Global Positioning System (GPS) technology, satellite mapping imagery, and aerial photography to update and improve the address information gathered for Census 2000; (2) substitutes commercial off-the-shelf software (COTS) for the Census Bureau "homegrown" database system that moves to an open, flexible, integrated system that allows data sharing and processing between the address list and the geographic data base; (3) includes geographic partnership programs in which local governments' address information can be built upon (due to unfamiliar terminology and mapping products, address information was lost in Census 2000); (4) update the address list in rural areas using Community Address Updating System (CAUS); and (5) expand quality metrics.

The new system will increase enumerator efficiency, facilitate identification of duplicate addresses, and reduce nonresponse follow-up costs. The existence of a GPS-based MAF/TIGER system offers the prospect for significant savings in a short-form-only 2010 Census–savings that will more than offset the cost of this enhancement. Because MAF/TIGER supports all Census Bureau activities, the demographic survey programs and economic censuses will also benefit from this initiative, although those benefits are not quantified in this analysis.

It is at the local government and community level that new demographic groups and housing arrangements can be identified. More importantly, ongoing geographic partnership programs, coupled with technological improvements, such as a geospatially-linked system, will preclude the duplications problem that plagued Census 2000. Procedures will be streamlined and most of the duplicates that do arise during address building can be easily resolved through geospatial comparisons. The 2010 Census will be armed with a far more comprehensive, timely, and accurate address list–one of the best predictors of a successful census–without the added complexity, risk, end-of-the-decade costs, and last minute address building costs.

The ACS Reflects a Changing America and Simplifies the 2010 Census

Beginning in 2003, the ACS would be conducted nationwide in every county

(using a sample size of three million households per year) to move traditional long-form data collection to a continuous data collection and publication activity. Even in its initial limited implementation in 31 sites throughout the United States, it already has benefitted those communities, the decennial census, and other surveys by providing current local information.

The ACS will provide timely information needed for critical economic planning by governments and the private sector. In our information-based economy, federal, state and local decision makers, as well as private business and nonprofit organizations, need current, reliable and comparable economic data to chart the future. The ACS will provide up-to-date profiles of American communities every year beginning in 2004, providing policymakers, planners, and service providers in the public and private sectors with information every year–not just once every ten years.

The ACS will be a boon to small business. Entrepreneurs can use these data to determine the feasibility of their business ventures. Local planners can use the data to help decide where to allocate scarce resources while meeting community needs for new roads, hospitals, and other facilities.

Billions of government and business dollars are divided among the states, communities, and population groups based on their economic, social, and housing characteristics. The ACS will provide a steady stream of constantly updated information to more fairly and accurately apportion these funds. In addition, the most current data will be available to the Congress when policies and programs are created and when they are evaluated.

Not only will the ACS provide more timely data, but the data will also have major and substantial benefits to overall Census Bureau and governmental operations:

- The decennial census will be simplified, returning to its basic Constitutional requirements for apportionment and redistricting;

- Responsive relationships among all levels of government will be fostered on an ongoing basis; and
- Efficiencies in the federal statistical system will be gained, including increased opportunities for cooperation and collaboration among government agencies.

Implementation of the ACS will create a short-form-only census in 2010, thereby enabling the census to generate substantial budgetary savings compared with repeating the methods of Census 2000–savings that will more than offset the cost of this program. For example, a short-form-only census will dramatically reduce costs associated with scanning mail responses. Census 2000 was awash in paper, scanning 1.5 billion pieces of paper. Sixty percent of that paper was the long form. A short-form-only census will also reduce costs by minimizing the number of mail-back responses permitting broader use of the Internet.

Additionally, a short-form-only census will reduce costs for nonresponse follow-up, by permitting Census Bureau field staff to carry GPS-linked hand-held devices that include maps, addresses, and short-form questionnaires. Consequently, enumerators will be able to find the correct housing units in less time, be certain they are at the correct locations, and collect the short-form data quickly. In contrast, Census 2000 had 500,000 people carrying paper and maps–a labor-intensive task–for nine weeks. Additional savings will be generated through electronic data entry from the field using these GPS-linked hand-held devices, rather than keying the data manually in the Data Capture Centers, as was done for Census 2000.

On a different front, a short-form-only census will also contribute to improved coverage of a re-engineered 2010 Census. For example, the format and lay-out of a short-form-only census will greatly simplify the collection of data in multiple languages because the forms can be structured so that they can be scanned, regardless of the language.

Early, Integrated 2010 Design Development Increases Flexibility while Decreasing Risk

Both the MAF/TIGER modernization and the ACS are integral to a successful 2010 Census and therefore integral to the Census Bureau's early planning activities. In addition, based on lessons learned from Census 2000, developing a design infrastructure that leads to early operational testing is crucial. This will require strong leadership, expert planning, sophisticated integration efforts, and oversight support. A major task is the development of the strategic framework to guide: (1) interactions among the three components; (2) risk identification and management; (3) product development; (4) analysis of operational alternatives; (5) development of the research agenda; (6) integration of solutions into a logical

design; and (7) plans for testing.

The bulk of the work must be conducted by a cadre of interdisciplinary, knowledgeable staff guided by a strong centralized project management structure. For example, the Census 2000 design provides a starting point or baseline for identifying design innovations and improvements. Documenting the baseline is time-consuming and difficult. If the baseline is not adequately established and documented, planning for 2010 and the 2010 Census itself will be compromised. The process of moving towards a design infrastructure or core architecture is both sequential and iterative. The purpose of these activities is to identify early small-scale testing and refinement, subsequently include the best of them in a meaningful mid-decade operational test, conduct a true dress rehearsal in the latter part of the decade, and therefore achieve a successful, well-managed, cost effective 2010 census.

Potential Benefits of Implementing this Strategy are Profound

However, preliminary cost modeling and scenario analysis have identified a number of potential benefits of the 2010 strategy, affecting every major decennial census function. As mentioned earlier, a detailed business case analysis is underway. The benefits and projected savings discussed below are intended to provide insight into the full potential of the Census Bureau strategy. Major areas of expected savings in 2010 are listed in the following 6 categories:

1) Address List Development

Savings would occur if the address list were maintained and updated throughout the decade, including systematic local input, and if Global Positioning System-linked (GPS) hand-held devices were used by address listers to reduce time and travel costs.

The assumptions for savings are as follows:

- No end-of-decade massive address listing and no clerical keying of address listing results
- Follow-up workload for the Local Update of Census Addresses (LUCA) program reduced by 25% (This reduction is a result of ongoing LUCA work throughout the decade.)
- Improved productivity and reduced miles per case by 10% each

(As a result of using GPS-linked hand-held devices, we expect enumerators to be able to travel to their destinations more directly and in a shorter time frame)

- Targeting of block canvassing in Mail Out/Mail Back areas would reduce field work by 25% (Targeting made possible through MAF/TIGER and ACS initiatives.)

Estimated savings over a repeated Census 2000 design ..... $ 155 million
Estimated cost of repeating Census 2000 in 2010 ..... $ 610 million

2) Postage and Printing

Savings would occur if all forms were short forms and electronic reporting expanded, thereby reducing the postage on returned mail.

The assumptions for savings are as follows:

- Savings on printing of 25%, and savings on postage of 9%
- Savings reduced by cost of targeted, rather than blanket second mailing

Estimated savings over a repeated Census 2000 design ..... $ 60 million
Estimated cost of repeating Census 2000 in 2010 ..... $ 765 million

3) Field Infrastructure

Savings would occur by using short form questionnaire only, providing the ability to do a targeted second mailing, which would increase response rates by 8% (1% because of higher short-form response rates, and 7% because of targeted second mailing.) Also, expanded electronic reporting would result in less paper in the Local Census Offices (LCO)s and less staff to control that paper.

The assumptions for savings are as follows:

- Reduce the number of LCOs
- Reduce clerical and administrative LCO staff costs by 50% for the remaining offices

- Reduce space per LCO by 50%

- Reduce the equipment and staff needed for map production in the LCOs (Maps and assignments would be transmitted electronically, thus reducing the need for a paper map printing function.)

Estimated savings over a repeated Census 2000 design ..... $ 530 million
Estimated cost of repeating Census 2000 in 2010 ..... $ 2,780 million

4) Field Enumeration

Savings would occur if GPS-linked hand-held technology reduced the amount of time spent by enumerators both in locating the addresses, and in taking duplicate interviews. Also, the increased response rate would result in reduced follow up workloads.

The assumptions for savings are as follows:

- Reduce miles per case by 5%

- Increase productivity of enumerators by 5%, relative to repeating the 2000 design

- Reduce workload from major field activities by 40%

Estimated savings over a repeated Census 2000 design ..... $ 1,700 million
Estimated cost of repeating Census 2000 in 2010 ..... $ 4,930 million

5) Telephone Questionnaire Assistance (TQA)

Savings would occur from short-form-only cases, which would result in shorter phone calls and less training required for the interviewers.
The assumption for savings is as follows:

- Reduce the TQA workload by 8%

Estimated savings over a repeated Census 2000 design ..... $ 10 million
Estimated cost of repeating Census 2000 in 2010 ..... $ 170 million

6) Data Capture

Savings would occur because a short-form-only census would dramatically reduce the workload. The amount of paper used would be reduced (½ of the total paper in 2000 was associated with the long form), and electronic collection methodologies, such as the Internet would be expanded, (perhaps 50% of responses). Also, GPS-linked hand-held electronic devices could be used for non response follow-up and other electronic data capture options could be considered and tested.

The assumptions for savings are as follows:

- Reduce data capture sites from 4 to 3
- Reduce volume of remaining sites by 28%

Estimated savings over a repeated Census 2000 design ..... $ 425 million
Estimated cost of repeating Census 2000 in 2010 ..... $ 1,265 million

Other Cost Factors related to repeating Census 2000 in 2010.....$ 1,205 million
(This includes management, outreach, evaluations, Puerto Rico, and the Island areas.)

Total Estimated cost of repeating Census 2000 in 2010.....$ 11,725 million

Savings summary:
The total estimated savings for the 2010 census is $2,880 million; these savings would be offset by $2,435 million in additional costs associated with implementing the 2010 design and testing. This will result in a net savings of $445 million as reflected in the attached table. The attached table also shows that without re-engineering the 2010 Census, the cost of repeating Census 2000 in 2010 will be $11,725 million.

Attachment

Table 1

File, Life-Cycle Document-Attachment
June-01

Life-Cycle Costs of the 2010 Census

With Potential Savings from 2010 Short-Form-Only Census, MAF/TIGER Modernization, and ACS Long-Form Data Collection

(in current millions, rounded)

		Total c sts for the 2010 cycle (in curr nt millions)
Cost of Repeating Census 2000 in 2010:		
Total 2010 Census Costs	$	11,725
Total Census Costs of Repeating Census 2000 in 2010	$	11,725
Cost of a Re-engineered 2010 Census: 2010 Short-Form-Only Census, MAF/TIGER Modernization, and ACS Long-Form Collection:		
Total 2010 Short-Form-Only Census Costs		9,025
Total MAF/TIGER Modernization (including CAUS)		535
Total ACS Long-Form Data Collection Costs		1,720
Total Re-engineered 2010 Census: 2010 Short-Form-Only Census, MAF/TIGER Modernization and ACS Long-Form Data Collection		**11,280**
Savings With Implementation of 2010 Short-Form-Only Census, MAF/TIGER Modernization, and ACS Long-Form Data Collection Costs:		
Potential Census Savings	$	**445**

NOTE: These are early estimates and may be subject to revision as more information becomes available. Details may not sum to totals because of rounding.

United States
Census
2010

Estimated Life Cycle Costs for the Reengineered 2010 Census of Population and Housing

June 2003

Estimated Life Cycle Costs for the Reengineered 2010 Census
June 2003

Introduction

In June 2001, the U.S. Census Bureau issued the document, "Potential Life Cycle Savings for the 2010 Census," to describe the goals and process for reengineering the 2010 Census of Population and Housing and to provide a cost comparison of that approach to one that would repeat the Census 2000 approach.

For both of those designs, the estimated cost for the decade was over $11 billion, due mostly to the estimated effects of inflation and work load increases. It is important to keep in mind that besides these two effects, all the other factors that have led to cost increases in the census since 1970 are just as likely to occur this decade–there will be extreme interest in coverage accuracy for all population groups and geographic areas; people will be more resistant to answering surveys and providing information to the government; and increased immigration and diversity of languages and cultures will make it more difficult to reach and include everyone. Therefore, no matter what design is chosen, it is expected that the 2010 Census will be very difficult and costly.

Background

The June 2001 document noted that the cost figures included were based on preliminary planning assumptions and were subject to change as we moved through the decade with our planning, testing, and development process. For example, since June 2001 we have learned things from our Census 2000 evaluation program, and we have explored a number of operational, technical, and policy aspects of the reengineered 2010 census design.

Our estimates also need to be updated to reflect appropriations for FY 2001-2003 and the President's request for FY 2004. Significant investments in research, testing, development, and implementation already have been made for all three components of the reengineering approach—the American Community Survey (ACS), the MAF/TIGER (Master Address File/Toplogically Integrated Geographic Encoding and Referencing) Enhancements program, and a short-form-only 2010 census.

This updated life cycle document contains the revised costs estimates of the reengineered 2010 Census design that we selected and began work on in 2001–a design that will be in its fifth year of testing and development as we approach the midpoint of the decade. We revised these estimates to reflect existing investments, new requirements, and other changes to the reengineering approach. We also have revised the estimate of repeating a Census 2000 design to reflect investments already made in the *reengineered* design. Please see the Appendix for an overview of our plans for reengineering the 2010 decennial census program.

Revised Estimated Life Cycle Costs (April 2003) for Reengineered 2010 Census Program

The revised estimated life cycle costs, by program component, of the reengineered 2010 Decennial Census of Population and Housing program are shown in Table 1, below. As

with the previous estimate in June 2001, the total includes ACS costs from FY 2001 (nationwide testing program) through FY 2012 (when five-year averages centered on 2010 can be produced with equivalent reliability to Census 2000 long-form data). As a technical correction to the previous approach, we have added $20 million in FY 2013 to the ACS to cover processing, tabulation, and publication of the FY 2012 data. For the MAF/TIGER Enhancements component, the total includes costs from inception in FY 2002 through FY 2012. For the Short Form 2010 Census component, the total includes costs from FY 2002 through FY 2013.

Table 1: Revised Estimated Life Cycle Costs for Reengineered 2010 Census Program (April 2003–in millions)

Program Component	FY 2001 Enacted	FY 2002 Enacted	FY 2003 Enacted	FY 2004 Request	Subtotal FY01-04	FY 2005-FY 2013 (est.)	Total (est.)
American Community Survey	$23.6	$29.0	$56.8	$64.8	$174.2	$1,421.1	$1, 595.3
MAF/TIGER Enhancements Program	$0	$15.0	$47.0	$83.3	145.3	$391.3	$536.6
Short Form 2010 Census	$0	$21.0	$41.6	$112.1	174.7	$9,003.2	$9,177.8
TOTAL	$23.6	$65.0	$145.4	$260.2	494.2	$10,815.6	$11,309.7

To provide a comparison to previous decennial census efforts, Table 2 displays full cycle costs for the 1970 census through the 2010 census, in comparable 2010 dollars (that is, all years from 1964 through 2013 have been inflated/deflated to 2010).

Table 2: Life Cycle Costs 1970-2010
(in constant 2010 dollars; in billions)

	1970[1]	1980[1]	1990[1]	2000[1]	2010[2] (estimated)
Cost ($billions)	$1.0	$2.4	$3.8	$7.6	$11.5
Cost Ratio to Previous Cycle	--	2.40	1.58	2.00	1.51
Housing Units (millions)	70.7	90.1	104.0	117.3	130.0
Cost Per Housing Unit ($)	$14.1	$26.6	$36.5	$64.8	$88.5
Cost Ratio to Previous Cycle	--	1.89	1.37	1.78	1.37

[1] Source: GAO-02-031, Census Cost Per Housing Unit. Inflated to 2010 dollars by U.S. Census Bureau
[2] Source: U.S. Census Bureau

From Table 2 it can be seen that the *ratio* of the estimated 2010 life cycle cost to the previous census (2000) will be the lowest of the last four decennial programs. Virtually the same pattern holds when comparing unit costs (cost per housing unit). The second smallest increase was from 1980 to 1990; however, the 1990 Census was less accurate than previous decennial censuses in spite of a number of operational improvements.

The average cost ratio for the previous three census cycles is 1.99. If this were applied to the figure for 2000, it would produce a much higher estimated life cycle cost for 2010 of $15.1 billion. If the ratio for the largest increase (1970 to 1980) were used, it would produce an estimated cost for 2010 of $18.2 billion.

Thus, even with the benefits to be obtained from the annual release of long-form data by the ACS, and the improvements to our MAF/TIGER databases that will serve many public and private sector needs for years to come, our estimated life cycle cost for the reengineered 2010 census program would produce a *rate of increase* that will be the smallest in four decades.

Comparison to June 2001 Life Cycle Cost Estimate

The June 2001 estimates of life cycle costs for the reengineered 2010 census program are shown in Table 3 for each of the program components, along with our current (June 2003) estimates and a difference column.

Table 3: Comparison of Estimated Life Cycle Costs for Reengineered 2010 Census Program (June 2001 and June 2003–in millions)

Program Component	June 2001	June 2003	Difference
American Community Survey	$1, 720.9	$1, 595.3	($125.6)
MAF/TIGER Enhancements Program	$536.6	$536.6	---
Short Form 2010 Census	$9,024.4	$9,177.8	$153.4
TOTAL	$11,281.9	$11,309.7	$27.8

Since the figures in the June 2001 document were prepared, several developments have affected our estimates of life cycle costs. For one, we have received actual appropriations for FY 2002 and FY 2003, and the President has submitted his budget request to the Congress for FY 2004.

The formulation of the President's FY 2004 budget request to Congress involved some difficult choices in this time of extraordinary demands on our Nation's resources:

- In the June 2001 document, our assumption was that the ACS would move to its full national sample of three million housing units per year beginning in FY2003. This now will not occur until the 4th Quarter of FY 2004. This delay lowers the life cycle cost estimate, but delays the first release of tract-level ACS data to 2010 (the original release was scheduled for 2008).

  Although the life cycle costs for the MAF/TIGER Enhancements program has not increased, we had to shift some of the work load (and thus costs) to later years. Because the completion date cannot be delayed, this also means all the work now will have to be done in a shorter period of time.

- For the short-form only 2010 census component of the reengineering effort, we are revising our previous June 2001 estimates because of changes to the 2004 Census Test, revised technical assumptions, and results from testing activities. We will continue efforts over the coming years to develop and test new/revised methods we had planned for 2004, and hope to use them for 2010. However, we believe we now should increase our estimated budget needs for later years in the cycle to account for the possibility that some of these new methods may not be able to replace existing, more expensive, approaches.

  For example, in June 2001 we assumed that, for the 2010 cycle, we would still have to

conduct address canvassing on a 100 percent basis in Update/Leave areas (those with mostly noncity-style addresses), but that our reengineering efforts to maintain the address list over the decade would allow us to reduce canvassing for mailout/mailback areas by 25 percent. Therefore, we assumed a savings of $38 million in the cost of conducting address canvassing for 2010 for all mailout/mailback areas. We no longer believe we can assume this approach will be perfected for 2010. Thus, we have increased our estimated life cycle costs by $38 million.

In June 2001 we also assumed that we could make increased use of Internet and telephone response as alternatives to mailback of a paper questionnaire. We assumed this would generate a savings of $44 million in the costs for return postage, data capture systems, and production. However, testing results from both the ACS and the 2003 National Census Test suggest that people are less likely to use these response options than we assumed. Because we are no longer assuming increased use of these options in 2010, we have increased our estimated lifecycle costs by $44 million.

Finally, increases to our life cycle estimates of about $128 million have been made based on new requirements, resulting from our Census 2000 evaluations; 2010 research, testing, and development efforts to date; and input from our many stakeholders, including the Congress. For example:

- As a result of our 2000 Accuracy and Coverage Evaluation (A.C.E.) research, we found that more testing is needed on ways to minimize duplicate enumerations during the census. Related to this is a need to do more testing on improved residence rules and other ways to improve coverage accuracy through the information we provide or request on the census form.

- Several evaluation findings and recommendations from key stakeholder groups have made it clear that more testing and development is needed on how we identify and enumerate Special Places/Group Quarters during the census.

- Increased interest from the Congress and other stakeholders representing Americans overseas has resulted in additional efforts to research and test methods for enumerating Americans overseas. For these efforts, we are requesting specific funding for FY 2004 through FY 2006, but have not included any costs in the life cycle estimates beyond FY 2006. A decision whether to request funding beyond that point will depend on research and test results.

Possible Effects of Major Changes in Overall Approach

In June 2001 we estimated that the life cycle costs of a 2010 census program that repeated the Census 2000 approach would be $11.7 billion. Compared to this, the estimated life cycle cost for the reengineered approach was $11.3 billion—an estimated savings of $400 million.

We now have revised our estimate for the reengineered approach based on the impact of what has happened since June 2001, as described earlier in the document. Over all fiscal years, the

revised life cycle cost for that design remains at $11.3 billion. However, based only on the effects of the actual appropriations to date (plus the President's request for FY 2004), the estimated life cycle cost for repeating a Census 2000 approach now would be $12.2 billion--at least $500 million higher than our estimate in June 2001. This results mostly from the fact that actual expenditures on the *reengineered* approach already have been made. Thus, we estimate that reverting in FY 2005 to a Census 2000 approach would result in an overall increase in life cycle costs of close to
$1 billion compared to continuing our present course.

This is not too surprising, given the pattern of spending for these two approaches. The reengineered approach has relatively higher costs early in the cycle, but relatively lower ones later on. The Census 2000 approach had just the opposite pattern—costs were relatively lower early in the decade, but relatively higher later. In effect, the most expensive approach overall would be to follow the reengineering approach deep into the decade, and then switch back to a Census 2000 approach. Almost certainly, there would be additional costs associated with a major change in the census design, and these costs would increase over time—the later a major change in approach has to be made, the more it is likely to cost. We have not attempted to estimate these costs for that very reason—they would vary depending on what is changed and when the change is made.

Appendix

Overview of Plan for Reengineering the 2010 Census

Census 2000 was an operational and data quality success: all operations were completed on time and within overall budget; overall coverage was improved; and differential undercount was improved for all minority groups and for children. However, Census 2000 was conducted with high cost and at great operational risk.

In response to the lessons of Census 2000, and in striving to better meet this Nation's ever-expanding needs for social, demographic, and geographic information, the U.S. Department of Commerce and the U.S. Census Bureau have developed a multiyear effort to completely modernize and reengineer the 2010 Census of Population and Housing. This reengineering effort has four major goals:

1. Improve the relevance and timeliness of census long-form data.
2. Reduce operational risk.
3. Improve the accuracy of census coverage.
4. Contain costs.

The reengineered 2010 census program consists of three highly integrated activities designed to take advantage of opportunities for innovations made possible through the expanded use of technology, major changes in our business process for data collection, and the use of focused coverage improvement procedures. These activities complement each other and form the basis for reengineering the 2010 census—one will not work to its full potential without the others.

American Community Survey

We will collect and tabulate long-form data every year throughout the decade using a large household survey.

Given the rapid demographic changes experienced in recent years, and the strong expectation that such changes will continue and accelerate, the once-a-decade data collection approach of a decennial census no longer is acceptable for producing much of the data required by the federal government, states, municipalities, tribal governments, and the Nation's businesses. To meet the needs and expectations of the Nation, one of the Census Bureau's approaches has been to develop the American Community Survey (ACS).

This survey will collect decennial census long-form data every month instead of once every ten years, and the Census Bureau will provide tabulations of these data on a yearly basis rather than only once each decade. This survey will allow the Census Bureau to remove the long form from the 2010 census, thus providing an opportunity to restructure and greatly simplify the process of census-taking itself. In addition, the field representatives collecting the ACS data will contribute to the second activity, keeping the Master Address File (MAF) up to date during the decade.

MAF/TIGER Enhancements Program

We will conduct a multiyear effort to enhance and improve the Census Bureau's Master Address File (MAF) and geographic database (TIGER).

The MAF/TIGER Enhancements program is multifaceted—taking advantage of well established technology to improve on the outdated and error prone methodologies currently in use, while expanding geographic partnerships with state, local, and tribal governments to maintain the address and geographic information essential for a successful 2010 census and ACS.

These improvements will help to reduce or eliminate the address duplication and incorrect housing unit and group quarters location problems that hampered Census 2000. The 2010 census field staff will be equipped with a more comprehensive, accurate, and timely address list—one of the best predictors of a successful census. In addition, they will be provided with highly accurate geographic tools (with Global Positioning System (GPS) capability) to guide them to the correct units and to use in recording the locations of both new addresses and new streets.

In addition to these improvements, the program will replace the current, internally developed processing environment for the MAF/TIGER system—which is outdated and beyond its useful life—with a modern processing environment using Commercial Off-The-Shelf and Geographic Information Systems software products and sound industry standard software engineering practices.

The results of the MAF/TIGER Enhancements program also will enable the ACS to collect high quality data throughout the decade.

Short-Form-Only 2010 Census

We will conduct a multiyear program of integrated planning, developing, and testing to completely restructure the management and conduct of a short-form-only census in 2010.

A sustained, multiyear, integrated program for planning, testing, and developing a short-form-only census for 2010 is the third key component of our reengineering effort. The data collection effort for 2010 will take advantage of and build on the ACS and MAF/TIGER improvements to contain costs and improve accuracy, while keeping operational risk to a minimum.

This will be accomplished through steps such as data collection using GPS-equipped mobile computing devices. Use of these devices will allow us to make major improvements to our business process for data collection—the largest and most expensive component of any census. We also plan to mail a second questionnaire to households that do not respond to the initial mailout. Our research has shown this to have significant promise for increasing mail response rates, thus lowering field follow-up work loads and costs. This improvement is made possible by the replacement of the long form by the ACS.

Other key efforts will include: (1) increasing data quality for all

population groups by improving questionnaire wording and instructions when collecting data about race and Hispanic origin; (2) increasing within-household coverage for all groups and areas by improving questionnaire wording and instructions regarding our residence rules; (3) improving the way we collect data for persons who live in group quarters; and (4) reducing duplication (of persons and housing units) and conducting real-time unduplication operations as soon as we begin to receive completed census questionnaires.

To do these things successfully, procedures must be fully tested under census-like conditions and refined well in advance of Census Day. This requires a sustained, multiyear effort of integrated planning, development, testing, revising, and retesting of all the many procedures needed to complete a successful census.

- We will conduct a major field test in 2004, focused primarily on improved methodologies for data collection and coverage.
- We will conduct another major test in 2006, which will be our final opportunity to *test* methods and technologies in the field before the Dress Rehearsal.
- We will conduct a Dress Rehearsal in 2008 of the selected methods and technologies for 2010 to demonstrate final proof of design and to ensure significant reduction in the risk of operational failure in 2010.
- We also will continue to conduct focused special purpose tests, cognitive studies, and technology assessments.

Implementation of the ACS, completion of the MAF/TIGER Enhancements program, and development of a fully tested, redesigned plan for a short-form only 2010 census all must occur in order for the Census Bureau to achieve its long-range performance goals for the 2010 census.

While each of these components can yield great benefits on its own, the full benefit comes from the integration of these activities into a fully reengineered decennial census program.

United States
Census
2010

Estimated Life Cycle Costs for Reengineering the 2010 Decennial Census Program

Revised
September 2005
Incorporates the President's FY 2006 Budget

Estimated Life Cycle Costs for Reengineering the 2010 Decennial Census Program
September 2005

Introduction

In June 2001, the U.S. Census Bureau issued the document, "Potential Life Cycle Savings for the 2010 Census," to describe the goals and process for reengineering the 2010 Decennial Census Program and to provide a cost comparison for that approach to one that would repeat the Census 2000 approach. The document noted that the cost figures included were based on preliminary planning assumptions and were subject to change as we moved through the decade with planning, development, testing, and implementation.

In June 2003, an update on the Census life cycle was issued to provide revised estimates of life cycle costs. This revision benefited from the experience of over two years of Census re-engineering progress, and was able to more accurately predict costs based on work performed as of that date. Since that time, re-engineering has continued in accordance with 2010 goals. The Census Bureau continually assesses its performance against these goals and evaluates the resources required for a successful Census in 2010. As planning and infrastructure investments are made throughout the cycle, more accurate predictions of total cycle costs can be produced.

This document outlines the most recent updates to life cycle cost estimates, which the Census Bureau will now publish on an annual basis for the duration of the cycle. In order to establish a comparable reference point for these annual estimates, these updates will be issued each year to correspond with the President's annual budget request to the Congress beginning with the fiscal year 2007 budget. This year's update reflects the President's FY2006 request and is compared to the estimated life cycle costs as of the President's FY2005 request.

Estimated Life Cycle Costs as of President's FY2006 Budget Request:

The September 2005 revised estimated life cycle costs for reengineering the 2010 Decennial Census Program are shown, by component program, in Table 1. The estimates reflect actual appropriations through FY2005, and the President's budget request to the Congress for FY2006.

As with previous estimated life cycle cost estimates, these figures include:

- ACS costs from FY 2001 (nationwide testing program) through FY 2012 (when five-year averages centered on 2010 can be produced with equivalent reliability to Census 2000 long-form data).
- MAF/TIGER Enhancement Program costs from inception in FY 2002 through FY 2012.
- 2010 Census costs from FY 2002 through FY 2013.

Table 1: Revised Estimated Life Cycle Costs for the 2010 Decennial Census Program (nominal year dollars in millions)

Program Component	FY 2001 Enacted	FY 2002 Enacted	FY 2003 Enacted	FY 2004 Enacted	FY 2005 Enacted	FY 2006 Request	Subtotal FY01-06	FY 2007-FY 2013 (est.)	Total (est.)
American Community Survey	$23.6	$29.0	$56.8	$64.1	$144.1	$169.9	$487.5	$1,219.8	$1,707.3
MAF/TIGER Enhancements Program	$0	$15.0	$47.0	$82.4	$81.2	$79.8	$305.4	$228.9	$534.3
2010 Census	$0	$21.0	$41.6	$106.0	$163.0	$214.5	$546.1	$8,466.8	$9,012.9
TOTAL	$23.6	$65.0	$145.4	$252.5	$388.3	$464.3	1,339.0	$9,915.5	$11,254.6

Details may not add to totals due to rounding.

The life cycle cost for the entire 2010 Decennial Census Program now is estimated to be $11.255 billion in nominal dollars. Only about 12% of this total will have been spent through the end of FY 2006. Overall, the 2010 Census itself still accounts for approximately 80% of the estimated life cycle cost, and for 85% of the estimated cost for FY 2007 – FY 2013.

Comparison to Estimated Life Cycle Costs Last Year (as of President's FY2005 Budget Request)

Table 2 provides a comparison of life cycle cost estimates between the President's FY2005 and FY2006 Budget requests. As the table illustrates, over the last year the net change in the overall estimated life cycle costs was a reduction of $25.2 million, which is less than one quarter of one percent.

Table 2: Comparison of Estimated Life Cycle Costs for the 2010 Decennial Census Program as of President's FY2005 and FY2006 Budget Requests (nominal year dollars in millions)

Program Component	As of President's FY2005 Request	As of President's FY2006 Request	Difference
American Community Survey	$1,627.7	$1, 707.3	$79.7
MAF/TIGER Enhancements Program	$534.7	$534.3	(-$0.4)
2010 Census	$9,117.4	$9,012.9	(-$104.5)
TOTAL	$11,279.8	$11,254.6	(-$25.2)

Details may not add to totals due to rounding.

Key factors that affected our estimated life cycle costs over the last year were:

- The difference between the President's Budget request and the amount appropriated placed some constraints on the activities that could be completed in FY2005.

- For the American Community Survey program, we requested additional multi-year funding to test and evaluate alternative question wording for topics covered by the ACS questionnaire. The 2008 American Community Survey will be the first opportunity to make revisions or improvements in the questionnaire design, the questionnaire content, the question wording, or the answer categories. However, prior to implementing any such questionnaire changes, the proposed changes must be field tested in accordance with Census Bureau (and standard statistical) policy. The testing will be done through a Methods Panel beginning in 2006.

  This Methods Panel research is essential to improving the relevance and timeliness of census long-form data, which is a major objective for the 2010 Decennial Census. Further, this endeavor will be undertaken without increasing the estimated life cycle costs for the *overall* 2010 Decennial Census Program. To achieve this, we offset the ACS increase by reducing the estimated cost for the 2010 Census component. Specifically, we reduced our estimate of the amount of funding that should be in place for risk management during implementation of the 2010 Census.

Revised Estimate of Life Cycle Costs to Revert to a Census 2000 Approach

In June 2001 we estimated that the life cycle costs of a 2010 Decennial Census Program that repeated the Census 2000 approach would be $11.725 billion, while the estimated life cycle cost for the reengineered design was estimated to be $11.280 billion—a savings of $445 million.

After factoring in appropriations for FY 2002 through FY 2005, the President's budget request for FY 2006, as well as ongoing programmatic enhancements, the estimated life cycle cost for the 2010 Census now stands at $11.255 billion. Forecasted saving from the employment of the re-engineered design now are estimated to be $1.301 billion, however, because the estimated life cycle cost if we revert now to a Census 2000 design is $12.556 billion.

This illustrates that life cycle savings to be produced from the reengineered design are contingent upon preparations prior to the 2010 Census date. Therefore, cyclical costs are markedly different than what would be expected from a repeat of the 2000 methodology. Maintaining a resource level sufficient to continue with the 2010 approach is necessary to capitalize on expenditures on re-engineering made to date, and to avoid a mid-stream adjustment to the 2000 approach. Such a change would become necessary if full implementation of re-engineering is not feasible, and would result in higher-than-expected costs for the cycle as a whole.

Comparison to Previous Censuses

To provide a comparison to previous decennial census efforts, Table 3 displays life cycle costs for the previous four decades to the current estimated cost of 2010 Decennial Census Program. To standardize the comparisons, costs are shown in constant 2010 dollars(1). Table 3 also displays these figures on a unit cost basis in order to remove the effects of workload differences due to population growth.

Table 3: Life Cycle Decennial Census Program Costs 1970-2010
(constant 2010 dollars)

	1970	1980	1990	2000	2010 (estimated)
Cost in Constant 2010 Dollars [1] (in billions)	$1.0	$2.4	$3.8	$7.6	$11.4
Percentage Increase in Cost Compared to Previous Census	--	140.0%	58.3%	100.0%	50.0%
Housing Units (in millions)	70.7	90.1	104.0	117.3	130.0
Cost Per Housing Unit (in dollars)	$14.1	$26.6	$36.5	$64.8	$87.7
Percentage Increase in Unit Cost Compared to Previous Census	--	88.7%	37.2%	77.5%	35.3%

[1]All years from 1964 through 2013 inflated/deflated to constant 2010 dollars.

As the figures in Table 3 illustrate, the cost of conducting censuses increases with each subsequent cycle. Several factors that are independent of programmatic methodology contribute to this phenomenon. For example, a desire for accurate coverage of a growing and increasingly diverse population adds complexity to each census. Also, experience reveals that people have become more resistant to answering surveys and providing information to the government. Adding to these difficulties is increased immigration and its diversity of languages and cultures, which creates difficulties in maintaining a wholly inclusive census. Factors such as these lead to an expectation for increased costs for the 2010 Census over the 2000 Census, regardless of the

(1) Year 2010 dollars calculated using the Chained Price Index in the Table of Economic Assumptions contained in the Analytical Perspectives volume of the FY 2005 Budget of the United States Government

design. However, the rate of increase in cost is estimated to slow due to the implementation of the re-engineered census design.

Table 3 reveals that the 2010 census is expected to enjoy the lowest rate of cost increase in the last four decades. This pattern also holds when comparing unit costs. To illustrate further, note that the average percentage increase in unit cost for the three previous census cycles was 67.8%. If applied to the cost for 2000, this straight line projection would produce an estimated unit cost for the 2010 cycle of $108.7, and thus an estimated total cost of $14.1 billion. And, if the largest increase in unit cost for the three previous cycles (88.7% from 1970 to 1980) were used, it would produce an estimated unit cost for 2010 of $122.3, and thus an estimated total cost of $15.9 billion. Both of these estimates are significantly higher than our actual projection of $11.4 billion as measured in constant 2010 dollars ($11.3 billion in nominal year dollars). Thus, while achieving the significant benefits to our nation from the annual release of long-form data by the ACS, and the improvements to our MAF/TIGER databases, the reengineered 2010 Decennial Census Program also will be significantly less costly than historical trends would project.

Next Steps Toward 2010

The September 2005 updated life cycle cost estimate for the reengineered 2010 Decennial Census program does not show much change from the previous estimate in June 2003, or from the initial estimate in June 2001. What has changed over the last four years is the estimated cost of abandoning the reengineered approach in favor of the approach used for Census 2000. We expect that the costs of reverting to the Census 2000 methodology will continue to increase over our current estimate of at least $1.3 billion. This amount will continue to increase as the years progress.

In addition to maintaining its cost advantage compared to historical trends, another major change over the last four years is that the reengineered approach has progressed from a plan to a reality. The American Community Survey already is producing more timely census long-form data; the Census Bureau is approaching the half way mark in bringing its TIGER database into alignment with GPS coordinates; and two major tests of 2010 Census methods and technology have been completed, with two more underway.

As these efforts proceed through the decade, the Census Bureau will continue to issue annual revisions to this document.

Appendix

Overview of Plan for Reengineering the 2010 Decennial Census Program

Census 2000 was an operational and data quality success--all operations were completed on time and within overall budget; overall coverage was improved; and differential undercount was improved for all minority groups and for children. However, the 2010 Census can be conducted with greater efficiency and less operational risk, while maintaining the successes of Census 2000.

In response to the lessons of Census 2000, and in striving to better meet this Nation's ever-expanding needs for social, demographic, and geographic information, the U.S. Department of Commerce and the U.S. Census Bureau have developed a multiyear effort to completely modernize and reengineer the decennial census. This reengineering effort for the 2010 Decennial Census Program has four major goals:

- Improve the relevance and timeliness of census long-form data.
- Reduce operational risk.
- Improve the accuracy of census coverage.
- Contain costs.

The 2010 Decennial Census Program encompass three highly integrated components designed to take advantage of opportunities for innovations made possible through the expanded use of technology, major changes in our business process for data collection, and the use of focused coverage improvement procedures. These component programs complement each other and form the basis for the reengineering —each will not work to its full potential without the others.

American Community Survey

We will collect and tabulate long-form data every year throughout the decade using a large household survey.

Given the rapid demographic changes experienced in recent years, and the strong expectation that such changes will continue and accelerate, the once-a-decade data collection approach of a decennial census no longer is acceptable for producing much of the data required by the federal government, states, municipalities, tribal governments, and the Nation's businesses. To meet the needs and expectations of the Nation, one of the Census Bureau's approaches has been to develop the American Community Survey (ACS).

This survey will collect decennial census long-form data every month instead of once every ten years, and the Census Bureau will provide tabulations of these data on a yearly basis rather than only once each decade. This survey will allow the Census Bureau to remove the long form from the 2010 Census, thus providing an opportunity to restructure and greatly simplify the process of census-taking itself. In addition, the field representatives collecting the ACS data will contribute to the second activity, keeping the Master Address File (MAF) up to date during the decade.

MAF/TIGER Enhancements Program

We will conduct a multiyear effort to enhance and improve the Census Bureau's Master Address File (MAF) and geographic database (TIGER).

The MAF/TIGER Enhancements program is multifaceted—taking advantage of well established technology to improve on the outdated and error prone methodologies currently in use, while expanding geographic partnerships with state, local, and tribal governments to maintain the address and geographic information essential for a successful 2010 Census and ACS.

These improvements will help to reduce or eliminate the address duplication and incorrect housing unit and group quarters location problems that hampered Census 2000. The 2010 Census field staff will be equipped with a more comprehensive, accurate, and timely address list—one of the best predictors of a successful census. In addition, they will be provided with highly accurate geographic tools with Global Positioning System (GPS) capability to guide them to the correct units and to use in recording the locations of both new addresses and new streets.

In addition to these improvements, the program will replace the current, internally developed processing environment for the MAF/TIGER system—which is outdated and beyond its useful life—with a modern processing environment using Commercial Off-The-Shelf and Geographic Information Systems software products and sound industry standard software engineering practices.

The results of the MAF/TIGER Enhancements program also will enable the ACS to collect high quality data throughout the decade.

2010 Census

We will conduct a multiyear program of integrated planning, developing, and testing to completely restructure the management and conduct of a short-form only census in 2010.

A sustained, multiyear, integrated program for planning, testing, and developing a short-form-only census for 2010 is the third key component of our reengineering effort. The data collection effort for the 2010 Census will take advantage of and build on the ACS and MAF/TIGER improvements to contain costs and improve accuracy, while keeping operational risk to a minimum.

This will be accomplished through steps such as data collection using GPS-equipped Hand Held Computers. Use of these devices will allow us to make major improvements to our business process for data collection—the largest and most expensive component of any census. We also plan to mail a second questionnaire to households that do not respond to the initial mailout. Our research has shown this to have significant promise for increasing mail response rates, thus lowering field follow-up work loads and costs. This improvement is made possible by the replacement of the long form by the ACS.

Other key efforts will include: (1) increasing data quality for all

population groups by improving questionnaire wording and instructions when collecting data about race and Hispanic origin; (2) increasing within-household coverage for all groups and areas by improving questionnaire wording and instructions regarding our residence rules; (3) improving the way we collect data for persons who live in group quarters; and (4) reducing duplication (of persons and housing units) and conducting unduplication operations as soon as we begin to receive completed census questionnaires.

To do these things successfully, procedures must be fully tested under census-like conditions and refined well in advance of Census Day. This requires a sustained, multiyear effort of integrated planning, development, testing, revising, and retesting of all the many procedures needed to complete a successful census. Some of these preparatory activities include:

- In 2003, the Census Bureau conducted a nationally-representative mailout test to study alternative self-response options and contact strategies, and to study alternative presentations of the race and Hispanic origin questions.
- In 2004, a major field test was conducted in two locations, focused primarily on improved methodologies for data collection and coverage.
- In 2005, a second nationally-representative mailout test will be conducted to study such things as new coverage questions; wording and presentation of residence rules; design, layout, wording, and presentation of the race and ethnicity questions and other short form content; and replacement questionnaire strategies.
- In 2006, a second major field test will be conducted in two locations. This will be the final opportunity to test methods and technologies in the field before the Dress Rehearsal.
- In 2008, the Census Bureau will conduct a Dress Rehearsal field test of the selected methods and technologies selected for the 2010 Census to demonstrate final proof of design and to ensure significant reduction in the risk of operational failure in 2010.

Implementation of the ACS, completion of the MAF/TIGER Enhancements program, and development of a fully tested, redesigned plan for a short-form only 2010 Census all must occur in order for the Census Bureau to achieve its long-range performance goals for the 2010 Decennial Census Program. Each of these components can yield great benefits on its own, but the full benefit comes from the integration of these activities into a fully reengineered decennial census program.

United States Government Accountability Office

GAO

Testimony

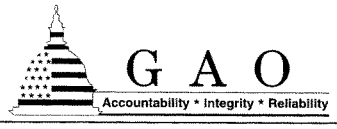
Before the Subcommittee on Federal Financial Management, Government Information, and International Security, Committee on Homeland Security and Governmental Affairs, U.S. Senate

For Release on Delivery
Expected at 2:30 p.m. EST
Tuesday, June 6, 2006

2010 CENSUS

Costs and Risks Must be Closely Monitored and Evaluated with Mitigation Plans in Place

Statement of Brenda S. Farrell
Acting Director,
Strategic Issues



GAO-06-822T

June 6, 2006

GAO
Accountability·Integrity·Reliability

Highlights

Highlights of GAO-06-822T, a testimony before the Subcommittee on Federal Financial Management, Government Information and International Security, Committee on Homeland Security and Governmental Affairs, U.S. Senate

2010 CENSUS

Costs and Risks Must Be Closely Monitored and Evaluated, With Mitigation Plans in Place

Why GAO Did This Study

The decennial census is a constitutionally mandated activity, with immutable deadlines. It produces data used to allocate about $200 billion yearly in federal financial assistance, reapportion the seats of the House of Representatives, and provide a profile of the nation's people to help guide policy decisions. The U.S. Census Bureau (Bureau) estimates the 2010 Census will cost $11.3 billion, making it the most expensive census in the nation's history, even after adjusting for inflation. Based primarily on GAO's issued reports, this testimony addresses the extent to which the Bureau has (1) developed detailed and timely cost data for effective oversight and cost control, (2) reduced nonresponse mail follow up costs, and (3) produced risk mitigation plans to address identified challenges.

What GAO Recommends

The Bureau is taking action on several of GAO's recommendations to reduce nonresponse time and mitigate contract-related risks. A January 2004 report contained recommendations to the Bureau for improving the transparency of the 2010 Census' life-cycle costs. While the Bureau did not agree with this recommendation, the Bureau stated that in response it would develop a comprehensive project plan that would include milestones, itemized estimated costs, and measurable goals.

www.gao.gov/cgi-bin/getrpt?GAO-06-822T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Brenda S. Farrell at (202) 512-6806 or farrelib@gao.gov.

What GAO Found

The Bureau's most recent life-cycle cost estimate for the 2010 Census does not reflect the most current information from testing and evaluation nor provide complete information on how changing assumptions may affect cost. As GAO reported in January 2004, the Bureau derived its initial cost estimate by considering the cost of the 2000 Census along with certain assumptions that drive costs, such as staffing needs, the nonresponse rate for mailing back the census questionnaire, census worker productivity and pay rates, and inflation; however, GAO's ongoing work has found that the most recent (September 2005) estimate does not incorporate current information on certain 2001 assumptions. For example, the 2004 Census Test suggests some assumptions about staffing and space associated with new technology have changed. Specifically, Bureau evaluations indicate that more staff at the local census office was needed to support the use of the new hand-held mobile computing device (MCD) and additional storage space was needed for the MCDs.

Since 2000, the Bureau has reengineered the decennial census and has begun new initiatives to reduce nonresponse follow up costs. Key to the Bureau's steps to reduce the costs of nonresponse follow up is successfully using the MCDs to eliminate millions of paper questionnaires and maps. Importantly, the Bureau must first resolve the MCD's technological challenges. During 2004 and 2006 tests, the MCDs had significant reliability problems. For example, in the 2004 test the MCDs experienced transmission problems, memory overloads, and difficulties with the mapping feature. Bureau officials have contracted the design and implementation for a new MCD that will not be ready until the 2008 Dress Rehearsal. If after the Dress Rehearsal the MCD is found not to be reliable, the Bureau could be faced with the remote but daunting possibility of having to revert to the costly paper-based Census used in 2000.

The Bureau does not have risk mitigation plans to address certain identified challenges to a cost-effective census. Most notably, the Bureau does not have a plan to assess additional resources that may be needed to update the address and map file for areas affected by hurricanes Katrina and Rita. Moreover, the Bureau has not yet assessed whether new procedures will be necessary nor whether local partners will be available to assist in updating address and map data. Updating address files to reflect the changes caused by the hurricanes will be formidable, in part because, according to Red Cross estimates, nearly 525,000 people were displaced in a 90,000 square mile area. Another risk to be mitigated stems from the need to closely monitor the performance of about $1.9 billion in contracts. The Bureau has agreed to take steps to mitigate some of those risks. For example, the Bureau has said it will enhance the ability of key contract project offices to better manage contracts through such actions as developing mitigation plans with milestones for key activities and regularly briefing senior managers.

Mr. Chairman, Mr. Carper, and Members of the Subcommittee:

Thank you for the opportunity to be here today to discuss the life-cycle costs of the 2010 Census as well as the actions that the U.S. Census Bureau (Bureau) is taking to contain those costs. The Bureau estimates the 2010 Census will cost $11.3 billion, which would make it the most expensive census in our country's history, even after adjusting for inflation. Since the 2000 Census, we have monitored how the Bureau has incorporated lessons learned from the 2000 Census into its planning for the next decennial census, as well as its cost and design. My overall point today is that the decennial's cost and risks must be closely monitored and evaluated, with mitigation plans in place to help ensure that accurate results are delivered on time and within projected costs. Based primarily on our issued reports, this testimony addresses the extent to which the Bureau has (1) developed detailed and timely cost data for effective oversight and cost control, (2) reduced nonresponse mail follow-up costs, and (3) produced risk mitigation plans to address identified challenges, such as assessing the resources that may be needed to update address files and maps in areas affected by hurricanes Katrina and Rita. I will also present the preliminary results of ongoing work—on which we plan to issue a report later this month—on the Bureau's efforts to build a complete and accurate address list, the foundation of a successful census.

As you know, Mr. Chairman, the decennial census is a crucial, constitutionally mandated activity undertaken by the Bureau. The stakes for a successful census are very high. The data that the census produces are used to reapportion the seats of the U.S. House of Representatives; realign the boundaries of the legislative districts of each state; allocate about $200 billion dollars each year in federal financial assistance; and provide a social, demographic, and economic profile of the nation's people to guide policy decisions at each level of government. Further, businesses use census data to target new services and products and to tailor existing ones to demographic changes.

Mr. Chairman, I would like to commend the subcommittee for calling today's hearing, as past experience has shown that strong and continuing congressional involvement—especially while there is still time to make cost-effective decisions and influence the direction of the decennial census—is essential to the decennial's ultimate success. Today's hearing is particularly timely because the Bureau is currently holding the 2006 Census Test in the central portion of Travis County, Texas, and at the Cheyenne River American Indian Reservation and Tribal Trust Lands in South Dakota, where the Bureau is evaluating key operations and

equipment it plans to employ for the full enumeration in 2010. After this test, the Bureau will have only one more opportunity to assess its census-taking-procedures—a "Dress Rehearsal" scheduled for 2008. Moreover, after the Dress Rehearsal, the Bureau will begin to transition from preparatory to operational activities, leaving little room for delays or design changes, which at that point could significantly increase the cost of 2010 Census.

Importantly, for decades we have been reviewing the national enumeration on behalf of Congress. Over the years, through a series of reports and testimonies, we have acquired broad institutional knowledge that gives us a historical view of the census. I want to highlight several broad themes that have emerged from our work.

First, completing the decennial census is a monumental undertaking, and the Bureau recognizes that streamlined and efficient operations are critical for the census' cost-effectiveness. The Census' sheer size and complexity make it a risky and fragile enterprise. The 2000 Census, for example, involved the hiring of more than 500,000 enumerators on a temporary basis, opening 511 local census offices nationwide and 24,000 questionnaire assistance centers, processing 1.5 billion sheets of paper, and in 10 weeks following up with 42 million nonrespondent households. The size of the census means that small problems can magnify quickly, and big problems could be overwhelming. For example, 60 seconds might seem like an inconsequential amount of time, but in 2000, if enumerators had spent just 1 minute more at each household during nonresponse follow-up, it could have added almost $10 million to the cost of the census, assuming a pay rate of around $13 per hour (wages ranged from $8.25 to $18.50 per hour for enumerators in 2000, depending on location).

Second, sound risk management is important to a successful census because many risks are interrelated, and a shortcoming in one operation could cause other operations to spiral downward. For example, a low mail response rate would drive up the follow-up workload, which in turn would increase staffing needs and costs. (Of course, the reverse is also true, where a success in one operation could have a number of positive downstream impacts.) Rigorous up-front planning and testing, and where needed, risk mitigation plans are the best ways to stave off these problems. In the 2000 Census, the Bureau successfully planned and mitigated risk in recruiting and hiring workers by using management information systems capable of tracking key operations with real-time measures. To recruit the vast army of people needed to fill the ranks of its workforce for the 2000 Census, the Bureau set a recruitment goal of 2.4

million qualified applicants. Because the Bureau tracked the progress local census offices were making in meeting their individual goals, it was able to mitigate risk by quickly raising pay rates and taking other actions at those offices where recruitment was lagging. In the end, the Bureau exceeded its recruitment goal by 100,000 people.

Third, the census is conducted against a backdrop of immutable deadlines, and the census' elaborate chain of interrelated pre- and post-Census Day activities are predicated upon those dates. The Secretary of Commerce is legally required to (1) conduct the census on April 1 of the decennial year, (2) report the state population counts to the President for purposes of congressional apportionment by December 31 of the decennial year, and (3) send population tabulations to the states for purposes of redistricting no later than 1 year after the April 1 census date. To meet these legally mandated reporting requirements, census activities need to take place at specific times and in the proper sequence. Bureau officials have recently stated, and we agree, that the design and plans being implemented are too far down the road and time is too short to allow for significant adjustments. In fact, as Census Day approaches, the tolerance for any operational delays becomes increasingly small. Indeed, considerable risk and cost increases could accompany design changes that occur late in the decade. This requires the Bureau to have risk-based mitigation plans in place now to ensure that 2010 Census operations are ready and that few, if any, changes to the fundamental design happen after the 2008 Dress Rehearsal.

Based on the Bureau's desire to address the issues associated with the 2000 enumeration, in designing the 2010 Census the Bureau had four goals in mind: (1) increase the relevance and timeliness of data, (2) reduce operational risk, (3) increase coverage and accuracy, and (4) contain costs. To achieve these goals, three components—all new operations—are important to the Bureau's plans for 2010:

- enhancing procedures for its address list (the MAF—Master Address File) and the associated geographic information system (the TIGER®—Topologically Integrated Geographic Encoding and Referencing database[1]),

[1] The TIGER database is a mapping system that identifies all visible geographic features, such as type and location of streets, housing units, rivers, and railroads. To link TIGER to the master address file (MAF), the Bureau assigns every housing unit in the MAF to a specific location in the TIGER, a process called "geocoding." TIGER is a registered trademark of the U.S. Census Bureau.

- replacing the census long-form questionnaire with the American Community Survey (ACS)[2], and
- conducting a short-form only decennial census that is supported by early research and testing.

My remarks today are based primarily on reports that GAO issued from 2002 through May 2006 on the planning and development of the 2010 Census. These reports are listed in appendix I. We analyzed Bureau documents and data and interviewed key Bureau officials regarding the 2004 and 2006 Census Tests. In that regard, we visited the Texas and South Dakota test sites; Queens, New York; and several counties in rural south-central Georgia, where an earlier field test was held in 2004. During these visits we observed the address canvassing operation—where workers go door to door verifying addresses and updating maps as part of the Bureau's effort to build a complete and accurate address list, and we observed the nonresponse follow-up operation—where enumerators collect information from those households that do not return their initial questionnaire. We conducted our work in accordance with generally accepted government auditing standards.

The Bureau's $11.3 Billion Cost Estimate for 2010 Census Lacks Timely and Complete Data

The Bureau's $11.3 billion life-cycle cost estimate for the 2010 Census lacks timely and complete supporting data. The supporting data of the estimate is not timely because it does not contain the most current information from testing and evaluation. Also, the supporting data of the estimate is not complete because it does not provide sufficient information on the how changing assumptions could affect cost.

Cost for Each Decennial Census Continues to Significantly Increase

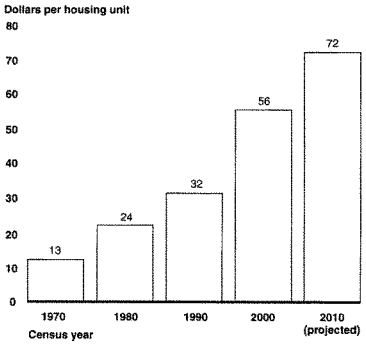
In January 2004, we reported that the Bureau's cost projections for the 2010 decennial census continue an escalating trend.[3] As noted above, the Bureau now estimates the 2010 Census will cost $11.3 billion, making it the most expensive in history, even after adjusting for inflation. Although some cost growth can be expected, in part because the number of housing units—and hence the Bureau's workload—has become larger, the cost growth has far exceeded the increase in the number of housing units. The

[2] ACS is intended to be a monthly survey of 250,000 households that, under the Bureau's plans, will replace the long-form census questionnaire.

[3] GAO, *2010 Census: Cost and Design Issues Need to Be Addressed Soon*, GAO-04-37 (Washington, D.C.: Jan. 15, 2004).

Bureau estimates that the number of housing units for the 2010 Census will increase by 10 percent over 2000 Census levels. At the same time, as shown in figure 1, the average cost per housing unit for 2010 is expected to increase by approximately 29 percent from 2000 levels (from $56 per housing unit to $72 per housing unit in 2000 inflation-adjusted dollars).[4]

Figure 1: Decennial Census Average Cost per Housing Unit (Fiscal Y ar 2000 Inflation-Adjusted Dollars)



Source. GAO analysis of U S. Census Bureau data.

The risk exists that the actual, final cost of the census could be considerably higher. Indeed, the Bureau's initial cost projections for previous censuses proved to be too low because of such factors as unforeseen operational problems or changes to the fundamental design. For example, the Bureau estimated that the 2000 Census would cost around $4 billion if sampling was used, and a traditional census without sampling would cost around $5 billion. However, the final price tag for the 2000 Census (without sampling) was over $6.5 billion, a 30 percent increase in cost. Today's climate of large federal deficits and other fiscal challenges requires holding the decennial's costs as low as possible, while promoting an accurate, timely census.

[4] These figures include the 10-year costs for ACS replacement for the census long form and the costs of MAF/TIGER.

2010 Cost Estimate Lacks Timely and Complete Information

Despite a history of cost increases, the Bureau's most recent cost estimate is not based on timely and complete information. Table 1 shows the Bureau's latest revised estimate that was released in September 2005. Based on this table, the bulk of the funds will be spent between fiscal years 2007 through 2013.

Table 1: Bur au's Revised September 2005 Estimate of Life-cycle Costs for the 2010 Decennial Census Program (in millions of dollars, nominal)

Program component	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006 budget request	Subtotal FY01-06	FY 2007-FY 2013 (est.)	Total (est.)
American Community Survey	$23.6	$29.0	$56.8	$64.1	$144.1	$169.9	$487.5	$1,219.8	$1,707.3
MAF/TIGER Enhancements Program	$0	$15.0	$47.0	$82.4	$81.2	$79.8	$305.4	$228.9	$534.3
Short Form 2010 Census	$0	$21.0	$41.6	$106.0	$163.0	$214.5	$546.1	$8,466.8	$9,012.9
Total	**$23.6**	**$65.0**	**$145.4**	**$252.5**	**$388.3**	**$464.3**	**1,339.0**	**$9,915.5**	**$11,254.6**

Source: U.S. Census Bureau.

Note: These figures have not been audited by GAO.

As we stated in our January 2004 report[5], in June 2001, the Bureau derived its 2010 cost estimate by using the actual cost of the 2000 Census combined with assumptions about cost drivers, such as (1) staffing needs, (2) enumerator productivity, (3) pay rates for census workers, (4) the nonresponse rate for mailing back the questionnaires[6], and (5) inflation. However, the most recent life-cycle cost estimate[7] does not incorporate current information about those 2001 assumptions. One key assumption, that has not been updated pertains to the use of a new technology—specifically, new hand-held, GPS-enabled mobile computing devices (MCDs)—that would be important to the success of the 2010 census by automating and streamlining address canvassing, nonresponse follow-up,

[5]GAO-04-37.

[6]Lower mail-back response rates increase costs by necessitating costly follow-up visits by enumerators to nonresponding households and/or the mailing of a follow-up questionnaire.

[7]U.S. Census Bureau, *Census Bureau Estimated Life Cycle Costs for Reengineering the 2010 Decennial Census Program* (Washington, D.C.: Sept. 2005).

coverage measurement, and payroll operations. The Bureau anticipated that the use of MCDs would facilitate reductions in administrative and support costs in the Bureau's field offices, including a 50 percent reduction in clerical and administrative local census office staff costs and a 50 percent reduction in space at each local census office. However, the Bureau's existing assumptions about the use and reliability of the MCD were not updated to reflect information from the 2004 test, which showed that assumptions about staffing and space associated with the new technology had changed since the June 2001 estimate. The Bureau's evaluations about those test results indicate that more help desk staff at the local census office were needed to support the use of the MCD, and additional storage space was needed for the devices. However, the Bureau did not use this information when revising its cost estimate in 2005 because, according to Bureau officials, they conduct field tests for operational purposes only—not to inform the cost estimates. In our view, revising cost estimates on the most recent information—including test results that are pertinent to cost assumptions—can assist the Bureau and external decision makers to oversee costs and make necessary resource allocations to help ensure a successful, cost-effective, census.

The Bureau's cost estimate lacked complete information, such as a sensitivity analysis regarding assumptions that could affect cost drivers. OMB Circular A-94 provides guidelines for cost-benefit analysis of federal programs and recommends that agencies develop a sensitivity analysis for major projects with significant uncertainty, like the decennial census. The circular provides a method for determining how sensitive outcomes are to changes in assumptions. In January 2004, we reported that the Bureau could provide more robust information on the likelihood that the values the Bureau assigned to key cost drivers could differ from those initially assumed and be timelier—previously the life-cycle cost estimate had been provided at 2-year intervals.[8] The Bureau's latest life-cycle cost document does not contain a sensitivity analysis on assumptions that impact cost; it did, however, indicate that the life-cycle cost would be updated annually.

Having transparent information about cost estimates is especially important because decennial costs are sensitive to many key assumptions. In fact, for the 2000 Census, the Bureau's supplemental funding request for $1.7 billion in fiscal year 2000 primarily involved changes in assumptions related to increased workload, reduced employee productivity, and

[8]GAO-04-37.

increased advertising. Given the cost of the census in an era of serious national fiscal challenges, it would be beneficial for the Bureau and Congress to have sensitivity information about the likelihood—high, medium, or low—that certain assumptions would drive costs. By providing this information, the Bureau would better enable Congress to consider funding levels in this uncertain environment.

Our January 2004 report also highlighted the challenge that the Bureau would have in containing the cost of the 2010 Census. To increase the transparency of the census' life-cycle costs for Congress, we recommended that Office of Management and Budget (OMB) establish triggers that would signal when the annual 2010 Census costs and/or life-cycle 2010 Census costs exceeded some predetermined amount. We also recommended, among other things, that OMB ensure the Bureau analyzes the sensitivity of the cost figures to specific assumptions. However, OMB disagreed with our recommendation, because it said it already has internal procedures within its budget reviews to monitor 2010 Census costs. OMB shared our view that the costs and risks associated with the 2010 Census must be carefully monitored and evaluated throughout the decade. OMB also agreed that it is essential to understand the key cost drivers and said that it is working with the Bureau to ensure that the Bureau develops high-quality, transparent life-cycle cost estimates.

In addition, we recommended in our 2004 report that the Bureau develop a comprehensive project plan that would be updated as needed to (1) include milestones for completing key activities; (2) itemize the estimated cost of each component; (3) articulate a clear system of coordination among project components; and (4) translate key goals into measurable, operational terms to provide meaningful guidance for planning and measuring progress. Some, but not all, of this information is available in various documents, and to be useful, it would need to be pieced together. As a result, we recommended that the Bureau combine this information into a single, comprehensive document. The Bureau disagreed with our recommendation, although it said it would develop such a plan nonetheless and provide it to GAO, Congress, and other stakeholders. The Bureau has not yet issued such a document.

Bureau Has Taken Steps to Reduce Nonresponse Follow-up Costs, But Challenges with Technology Remain

Since 2000, the Bureau has reengineered the decennial census and has begun to implement new initiatives. These include (1) using a short-form-only census questionnaire; (2) automating field operations; and (3) using a targeted second mailing to households that fail to respond to the initial census questionnaire, instead of sending an enumerator to visit houses that have not responded. These initiatives could reduce the workload and cost of nonresponse follow-up. While these initiatives show promise, the Bureau will need to address technological challenges with the MCD that will be used to collect data for nonresponse follow-up.

The Bureau is finding it increasingly difficult to locate people and get them counted in the census. As in previous censuses, the major cost for the 2010 Census is what the Bureau calls "field data collection and support systems," accounting for over half of the life-cycle costs of the decennial census.

First, the Bureau plans to contain the cost of nonresponse follow-up by increasing mail response through a short-form-only census. The overall mail response rate has been declining steadily since 1970. In the 1980 Census, the mail response rate was 75 percent, 3 percentage points lower than it was in the 1970 Census. In the 1990 census, the mail response rate dropped to 65 percent and, in 2000, appeared to be leveling off at about 64 percent. Contributing to this decline is the public's unwillingness to complete the long form. Specifically, the response rates in 1990 and 2000 to the short form have been higher than the response rate to the long form. Bureau data suggest a 1 percent increase in the mail response rate would result from conducting a short-form-only census.

Secondly, by using the MCD, the Bureau plans to automate field data collection to contain the cost of nonresponse follow-up. The MCD allows the Bureau to automate operations and eliminate the need to print millions of paper questionnaires and maps used by census workers to conduct address canvassing and nonresponse follow-up, as well as managing field staff's payroll. As stated above, the benefits of using the MCD have been tested in the 2004 and 2006 tests. For example, during the 2004 Census Test, the MCD allowed the Bureau to successfully remove over 7,000 late mail returns from enumerators' assignments, reducing the total nonresponse follow-up workload by nearly 6 percent. The ability to remove late mail returns from the Bureau's nonresponse follow-up workload reduces costs, because census workers no longer need to make expensive follow-up visits to households that return their questionnaire late, after the mail-back deadline. If the Bureau had possessed this capability during the 2000 Census, it could have eliminated the need to

visit nearly 773,000 late-responding households and saved an estimated $22 million (based on our estimate that a 1 percentage point increase in workload could add at least $34 million in direct salary, benefits, and travel costs to the price tag of nonresponse follow-up[9]). Moreover, operations that traditionally had to be done in sequence, such as nonresponse follow-up and then verifying the housing unit status for addresses marked vacant, can now be performed simultaneously by using the MCD, which may shorten the time needed for local census offices to stay open.

However, the Bureau's ability to collect and transmit data using the MCD is not known and, at this point, constitutes a risk to the cost-effective implementation of the 2010 Census. During the 2004 test of nonresponse follow-up and the 2006 test of address canvassing, the MCDs experienced significant reliability problems.

During the 2004 Census Test, the MCDs experienced transmission problems, memory overloads, and difficulties with a mapping feature—all of which added inefficiencies to the nonresponse follow-up operation.[10] During the 2006 Census Test, for address canvassing, the device was slow to pull up and exit address registers, accept the data entered by the census workers, and link map locations to addresses for multiunit structures. Furthermore, the MCDs would sometimes lockup, requiring workers to reboot them.

Census workers also found it difficult to transmit an address and map location that were identified for deletion. Because the Bureau could not fix this problem, workers returned to the local census office so technicians could address the problem. The MCD's global positioning system (GPS) receiver, a satellite-based navigational system to help workers locate street addresses and collect coordinates for each structure in their assignment area, was also unreliable. Some workers had trouble receiving signals, and when a signal was available, the receiver was slow to find assignment areas and correct map locations, according to Bureau officials. The Bureau extended the operation 10 days and still was unable

[9] GAO, *2000 Census: Contingency Planning Needed to Address Risks That Pose a Threat to a Successful Census*, GAO/GGD-00-06 (Washington, D.C.: Dec. 14, 1999).

[10] GAO, *2010 Census: Basic Design Has Potential, but Remaining Challenges Need Prompt Resolution*, GAO-05-9, (Washington, D.C.: January 12, 2005).

to complete the job, leaving census blocks in Austin, Texas and on the Cheyenne River Reservation, South Dakota, unverified.

The Bureau has acknowledged that the MCD's performance is an issue but believes it will be addressed through a contract awarded on March 30, 2006, to develop a new MCD. However, the new MCD will not be tested until the 2008 Dress Rehearsal, and if problems do emerge, little time will be left to develop, test, and incorporate refinements. Given that, it will be important that the Bureau have a risk mitigation plan in place to help ensure the successful testing of the MCD at the Dress Rehearsal. In our May 2006 report, we highlighted the tight time frames to develop the MCD and recommended that systems being developed or provided by contractors for the 2010 Census—including the MCD—be fully functional and ready to be assessed as part of the 2008 Dress Rehearsal.[11] The Department of Commerce, the Census Bureau's parent agency, noted in its comments on our draft report that the Bureau provided competitors for the contract with information about the design, requirements, and specification for the 2006 test in the request for proposals. Commerce also noted that the Bureau would share preliminary results from the 2006 test with the firm that was awarded the contract, upon the availability of those results. The Bureau, however, did not specify when preliminary results would be available. However, if after the 2008 Dress Rehearsal the MCD is found not to be reliable, the Bureau could be faced with a remote but daunting possibility of having to revert to the costly, paper-based census used in 2000.

Finally, a targeted second mailing to households that fail to respond to the initial census questionnaire could reduce the workload and cost of nonresponse follow-up. According to Bureau studies, sending a second questionnaire could yield a gain in overall response of 7 to 10 percent from non-responding households. In reports, we have highlighted how a second mailing could boost the mail response rate by several percentage points, which in turn would result in considerable savings by reducing the number of costly personal visits enumerators would need to make to non-responding households. The Bureau has never before included this operation as part of a decennial census and over the decade has been testing its feasibility. The targeted second mailing is a part of the 2006

[11] GAO, *2010 Census: Census Bureau Generally Follows Selected Leading Acquisition Planning Practices, but Continued Management Attention Is Needed to Help Ensure Success*, GAO-06-277 (Washington, D.C.: May 18, 2006).

test, the results of which will allow the Bureau to identify and resolve any operational issues; to demonstrate a more refined plan as part of the 2008 Dress Rehearsal; and, ultimately, to increase the likelihood that the second mailing will produce the desired cost savings and other benefits in 2010.

Bureau Lacks Risk Mitigation Plans for Certain Challenges

Recent work that we have conducted has identified several challenges that, if not properly managed, could increase the cost of the 2010 Census. As the Bureau moves from testing to demonstrating the design in the Dress Rehearsal, it will be important for the Bureau to have risk mitigation plans in place to reduce the severity of challenges to a cost-effective census. These challenges include (1) overseeing contractors responsible for conducting key census-taking operations, (2) successfully updating address and map files, and (3) assessing the resources that will be needed to update the address files and maps for areas affected by hurricanes Katrina and Rita.

Increased Reliance on Contractor Support for the 2010 Census Introduces Risk

The Bureau is relying extensively on contractors to supply mission-critical functions and technologies for the 2010 Census. The Bureau estimates that they will spend $1.9 billion, or nearly 17 percent, of the Bureau's overall decennial costs to award seven major contracts for the 2010 Census. To date, the Bureau has awarded three of its seven major contracts. These three contracts support (1) MAF/TIGER modernization; (2) the development and operation of the Decennial Response and Integration System (DRIS)—a system planned to integrate paper, Internet, and telephone responses; and (3) the Field Data Collection Automation (FDCA) program—a system designed to provide field staff with the equipment and infrastructure needed to collect census data.

Contractors can help the Bureau address the challenges it faces as it plans for and implements the 2010 Census, especially as it becomes increasingly difficult for the Bureau to count the nation's population with its in-house staff and capabilities. The contractors that the Bureau relied on to perform major decennial activities during Census 2000 generally performed well.[12] However, increased reliance on contractors entails certain management challenges, including the oversight of contractors to ensure that they meet

[12] For example, the data capture system exceeded its performance goals for accuracy, and the advertising campaign blanketed the country with more than 250 advertisements in 17 languages, which helped boost the response rate higher than the Bureau had expected.

the Bureau's needs in an effective, economical, and timely manner. For example, according to the Department of Commerce Office of Inspector General, the Bureau did not have sufficient program management staff to efficiently acquire systems and manage complex, high-dollar contracts during Census 2000.[13] As a result, the cost of the Bureau's data capture system increased from $49 million to $238 million by the end of that decennial.

As we noted in our May 2006 report, the Bureau has not yet awarded four other major contracts for the 2010 Census, but has already pushed back the award dates of two of the remaining contracts because of changes in its acquisition approach. The Bureau's tight schedule for systems development and testing as well as the interdependence of decennial systems could affect its ability to develop fully functional and sufficiently mature systems that can be demonstrated in concert with other operations during the 2008 Dress Rehearsal. We previously reported that during the 1998 Dress Rehearsal for the 2000 Census, a number of new features were not test-ready; as a result, the Bureau said it could not fully evaluate them with any degree of assurance as to how they would affect the census.[14] These late design changes and untested systems resulted in additional costs to the census.

Closely monitoring major contracts continues to be important. In March 2006, we testified that while project offices responsible for the DRIS and FDCA contracts had carried out initial acquisition management activities, neither office had the full skill sets needed to effectively manage the acquisitions.[15] For DRIS, the Bureau's project office had established baseline requirements, but the Bureau had not validated the requirements and had not implemented a process for managing them. Also, the project office had identified the project's risks but had not written mitigation plans or established milestones for completing key risk mitigation activities. As for FDCA, the Bureau again had specified baseline requirements but had not validated them. While, the project office had

[13] Department of Commerce Office of Inspector General, *Improving Our Measure of America: What Census 2000 Can Teach Us in Planning for 2010*, OIG-14431 (Washington, D.C.: Spring 2002).

[14] GAO-05-9.

[15] GAO, *Census Bureau: Important Activities for Improving Management of Key 2010 Decennial Acquisitions Remain to be Done*, GAO-06-444T , (Washington, D.C.: Mar. 1, 2006).

begun to oversee the contractor's performance, it had not determined which performance measures it would use, and the office had not implemented a risk management process. Until these basic management activities are implemented, both systems could face increased risks of cost overruns, schedule delays and performance shortfalls. We have made recommendations addressing those issues, such as developing mitigation plans with milestones for key activities and regularly briefing senior managers. The Bureau has agreed to complete these activities as soon as possible.

As part of its effort to allow respondents to use the Internet during the decennial census, the Bureau proposed to develop the use of the Internet under the DRIS contract. However, in May 2006, Bureau officials informed us that the Internet response option was no longer a contract requirement and that they are uncertain whether Internet response would be an option for the 2010 Census. The removal of the Internet from the DRIS contract is an unexpected change, because just 3 months earlier in our March 2006 testimony,[16] we reported that the DRIS contract was expected to process Internet responses for the 2010 Census.

High-level Bureau officials explained that they made the decision to remove the Internet from the contract partly because of the potential risks associated with computer security attacks. In addition, according to a Bureau official, the Bureau's testing to date showed nothing to indicate that offering an Internet response option would improve overall response rates or save any money. According to Bureau officials, if the Internet response option is included in the design, it will be developed in-house by Bureau staff. Bureau officials emphasized that they only have one chance every 10 years to collect this information; moreover, any public perception of an unsecured Internet Web site could result in residents not responding to the census, and in the long term could cost more than if the Internet had not been used. It should be noted that there are security techniques to address Internet attacks, and other federal agencies use the Internet to successfully meet many missions. According to a Bureau official, the Bureau believes it made a sound business decision by removing the Internet from the DRIS contract requirements. Further, the official told us that the Bureau did not develop a formal business case document on this decision.

[16] GAO-06-444T.

Address and Mapping Challenges Pose a Risk to a Cost-Effective Census

To contain decennial costs, long-standing and emerging issues related to the Bureau's address lists and maps need to be addressed. A complete and accurate address list is the cornerstone of a successful census because it identifies all households that are to receive a census questionnaire and serves as the control mechanism for following up with households that fail to respond. Although the Bureau went to great lengths to build a complete and accurate MAF for the 2000 Census, of the 116 million housing units contained in the database, the Bureau estimates it incorrectly included 2.3 million housing units and missed another 2.7 million housing units. In light of these and other problems, the Bureau concluded that enhancements to MAF/TIGER were necessary to make census data more complete and accurate.

The Bureau has conducted research and testing to help resolve each of the problems experienced in the 2000 Census, including addresses that were duplicated, missed, deleted, and incorrectly located on a map (a problem known as "geocoding error"). For example, the Bureau is researching ways to capture missed addresses for housing units that were hard to find—often associated with apartments in small multiunit structures. However, some deadlines for completing research are not firm, while other deadlines that have been set continue to slip. As a result, it is not known whether the research and evaluation efforts underway will be completed in sufficient time to allow the Bureau to develop new methodologies and procedures for improving the MAF by June 2007—the Bureau's announced deadline for determining the baseline for all program requirements.

In addition, one major research effort using software to identify duplicate addresses (an estimated 1.4 million duplicate addresses were removed during the 2000 Census) did not work and will not be used in 2010. As a result, duplicate addresses may still be a problem for the 2010 MAF, and if not detected, can result in increased cost when nonresponse enumerators attempt to collect data from a duplicate address incorrectly listed in the MAF.

New issues surrounding the schedule of address activities have emerged. One such issue revolves around the planning and development of the 2010 Census amid tight and overlapping schedules for updating addresses and map files. For example, Bureau officials estimate that TIGER maps for 600 to 700 counties of 3,232 counties in the United States will not be updated in time to be part of local update of census address (LUCA)—the Bureau's program to give local, state, and tribal government officials the

opportunity to review the address lists and maps and suggest corrections.[17] LUCA participation is important because local knowledge contributes to a more complete and accurate address file. Not having the most current TIGER maps could affect the quality of a local government's review and could potentially increase the cost of conducting the census. For example, to the extent LUCA participants are not able to use the maps to identify duplicate and nonexistent addresses, and if subsequent address operations also fail to identify those same addresses, then nonresponse follow-up enumerators would make unnecessary and costly attempts to locate these incorrectly included addresses.

Bureau Does Not Have a Plan to Assess Resources Needed to Update Address and Map Files in Areas Affected by Hurricanes Katrina and Rita

The Bureau does not have a plan to assess additional resources that may be needed to update the address and map file for areas affected by hurricanes Katrina and Rita. The task of updating Census address files to reflect the changes caused by the hurricanes will be formidable and possibly costly, as much has changed to the landscape since the 2000 Census. On August 29, 2005, hurricane Katrina devastated the coastal communities of Louisiana, Mississippi, and Alabama. A few weeks later, hurricane Rita hit the border areas of Texas and Louisiana. Damage was widespread. For example, the Red Cross estimated that nearly 525,000 people were displaced as a result of hurricane Katrina and approximately 90,000 square miles were affected. In some places, entire communities were obliterated. Homes were declared uninhabitable, and streets, bridges, and other landmarks were destroyed.

For the 2010 Census, locating housing units and the people who reside in them will be critical to accurate population counts of places hit by the hurricanes, especially since it is estimated that hundreds of thousands of people have—either temporarily or permanently—migrated to other areas of the country. The Bureau anticipates that by 2009, residents will have decided whether to return to the region. However, Bureau officials have not provided information regarding the basis of this conclusion. Given the magnitude of the area, population, and infrastructure affected, it would be prudent for the Bureau to begin assessing whether new procedures will be necessary, determining whether additional resources may be needed, and identifying whether local partners will be available to assist the Bureau in

[17]In the Census Address List Improvement Act (Pub. L. No. 103-430, Oct. 31, 1994), Congress required the Bureau to develop a local address review program giving local governments and tribal governments greater input into the Bureau's address list development process.

its effort to update address and map data, as well as other census-taking activities. Without having done a resource analysis, the Bureau remains uncertain about whether additional funds will be needed to help locate and count residents affected by the hurricanes.

In summary, the 2010 Census is an expensive but vitally important undertaking, the success of which is needed to meet the information requirements of policymakers at all levels of government, as well as business interests, and academic researchers. The Bureau responded to concerns about the accuracy, completeness, and cost-effectiveness of the 2000 Census by reengineering the heretofore paper-based processes used in all previous censuses.

At the same time, the projected life-cycle cost of $11.3 billion makes the next decennial census the most expensive in our history, and many factors can cause the 2010 Census to be more expensive. It is important to consider that some factors that may increase the costs of the census—such as counting more people than ever who do not speak English or who live in alternative, hard-to-find housing—are inherent in the characteristics of the population that needs to be counted. Largely, demographically related cost factors will continue to exist, regardless of actions taken by the Bureau, and must be treated as givens by Bureau planners. Still, other factors that can cause cost increases can and should be mitigated. While needed, the reengineering introduced by the Bureau presents new challenges and increased risks. The Bureau needs to ensure that its new MCDs work as designed, and that contractors perform according to requirements, on schedule, and at cost. Moreover, the Bureau still needs to fully resolve preexisting issues related to the accuracy and completeness of the address list.

Overall, we have long recognized that redesigning massive enterprises entail risks and uncertainties. Such risks and uncertainties need to be managed through the use of adequate planning and risk management by Bureau management. Such tools also serve the oversight requirements of external stakeholders—most notably Congress, which is being asked to authorize and appropriate more funds than ever to pay for the census.

In January 2004, recognizing the cost escalation risks of the 2010 Census, we concluded that the Bureau's plans for 2010 lacked the needed budgetary supporting detail, supporting analysis, and other information, making it difficult for Congress and us to oversee the Bureau's operations and assess the feasibility of the Bureau's design and the extent to which it

would lead to greater cost-effectiveness. While the Bureau has made progress in planning and designing the 2010 Census, the Bureau will need to continue to take steps to manage and mitigate risks for a comprehensive, accurate, and cost-effective population count in 2010.

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

Contacts and Acknowledgements

For questions regarding this testimony, please contact Brenda S. Farrell, on (202) 512-6806, or by email at farrellb@gao.gov Individuals making contributions to this testimony include Betty Clark, Robert Goldenkoff, Ernie Hazera, Shirley Hwang, Krista Loose, Lisa Pearson, Scott Purdy, Cynthia Scott, and Tim Wexler.

Appendix I: Related Products by GAO

GAO Products

2010 Census: Census Bureau Generally Follows Selected Leading Acquisition Planning Practices, but Continued Management Attentions Is Needed to Help Ensure Success. GAO-06-277. Washington, D.C.: May 18, 2006.

Census Bureau: Important Activities for Improving Management of Key 2010 Decennial Acquisitions Remain to Be Done. GAO-06-444T. Washington, D.C.: March 1, 2006.

2010 Census: Planning and Testing Activities Are Making Progress. GAO-06-465T. Washington D.C.: March 1, 2006.

Information Technology Management: Census Bureau Has Implemented Many Key Practices, but Additional Actions Are Needed. GAO-05-661. Washington, D.C.: June 16, 2005.

2010 Census: Basic Design Has Potential, but Remaining Challenges Need Prompt Resolution. GAO-05-09. Washington, D.C.: January 12, 2005.

Data Quality: Census Bureau Needs to Accelerate Efforts to Develop and Implement Data Quality Review Standards. GAO-05-86. Washington, D.C.: November 17, 2004.

Census 2000: Design Choices Contributed to Inaccuracies in Coverage Evaluation Estimates. GAO-05-71. Washington, D.C.: November 12, 2004.

American Community Survey: Key Unresolved Issues. GAO-05-82. Washington, D.C.: October 8, 2004.

2010 Census: Counting Americans Overseas as Part of the Decennial Census Would Not Be Cost-Effective. GAO-04-898. Washington, D.C.: August 19, 2004.

2010 Census: Overseas Enumeration Test Raises Need for Clear Policy Direction. GAO-04-470.Washington, D.C.: May 21, 2004.

2010 Census: Cost and Design Issues Need to Be Addressed Soon. GAO-04-37. Washington, D.C.: January 15, 2004.

Decennial Census: Lessons Learned for Locating and Counting Migrant and Seasonal Farm Workers. GAO-03-605. Washington, D.C.: July 3, 2003.

Decennial Census: Methods for Collecting and Reporting Hispanic Subgroup Data Need Refinement. GAO-03-228. Washington, D.C.: January 17, 2003.

Decennial Census: Methods for Collecting and Reporting Data on the Homeless and Others Without Conventional Housing Need Refinement. GAO-03-227. Washington, D.C.: January 17, 2003.

2000 Census: Lessons Learned for Planning a More Cost-Effective 2010 Census. GAO-03-40. Washington, D.C.: October 31, 2002.

The American Community Survey: Accuracy and Timeliness Issues. GAO-02-956R. Washington, D.C.: September 30, 2002.

Enclosure

Questions for the Record

Hearing on "2010 Census, Off-Line and Off Budget: The High-Cost of Low-Tech Counting"
Chairman Tom Coburn
June 20, 2006

Charles Louis Kincannon, Director, Census Bureau

Spending Issues

- **Current estimates put the cost of the 2010 Census at $11.3 billion. Do you still believe that $11.3 billion is an accurate estimate of what it will cost?**

  Yes. The most recent estimate of life cycle costs (September 2005) remains at $11.3 billion.

- **Since 1980, costs for the Census have increased by billions of dollars per decade. Do you anticipate the cost to ever level out or to just continue rising indefinitely?**

  The cost of conducting censuses increases with each subsequent cycle. Several factors that are independent of programmatic methodology contribute to this phenomenon. For example, the need for accurate coverage of a growing and increasingly diverse population adds complexity to each census. Also, experience reveals that people have become more resistant to answering surveys and providing information to the government. An increasing diversity of languages also adds complexity to various census efforts. Factors such as these lead to an expectation for increased costs for the 2010 Census over Census 2000, regardless of the design. Costs for future censuses likely will be affected by many of these same factors.

- **Most of the Census Bureau's re-engineering efforts, including moving to a short-form only census and offering the American Community Survey, officially went into effect around 2003. Although these will likely have a significant impact on the cost estimates for the 2010 decennial, why has the Census Bureau not revised its estimate of $11.3 billion since 2001, prior to the re-engineering?**

  The U.S. Census Bureau's estimate of $11.3 billion already takes into account the savings from the reengineered decennial census program. Without the reengineering (including the American Community Survey (ACS)), our most recent estimate (September 2005) of the cost for repeating the Census 2000 approach is $12.6 billion.

- **Are there any areas in the 2010 Census that you believe will be more cost-effective than in 2000? What are they and why?**

  The entire reengineering effort is about improving cost-effectiveness. One of the four strategic goals for the reengineered design for the 2010 Decennial Census Program is to contain costs. At the same time, the Census Bureau is trying to meet three other strategic goals of great interest to all of the Congress—increasing the timeliness of data, reducing risks, and reducing coverage errors—which tend to drive costs higher. Yet, through the reengineering approach, we believe we can accomplish all three of those goals and still save $1.3 billion compared to reverting now to the approach used for Census 2000. We also plan to implement several specific operational changes we believe will make the next census more cost-effective. For example, we believe we can increase overall mail response rates by sending a second replacement questionnaire to those households that did not respond to the initial mailout. Also, with the use of hand-held computers for nonresponse follow-up, we can update work assignment lists each day to account for late mail returns. We could not do this in Census 2000, so we interviewed over five million households that had already mailed us a completed questionnaire.

- **Specifically, GAO has indicated that your current cost estimates are based on an assumption that the handheld devices will save you in administrative costs. In your 2004 test, though, the handheld devices did not work right and showed that they might make costs increase. Do you believe that costs should be estimated upwards to reflect that?**

  The 2004 Census Test was our first opportunity to study human factor issues relating to the use of hand-held computers—e.g., could we hire and train temporary workers to use these devices to conduct interviews? The results were encouraging enough to continue with our plans for the 2010 Census. We experienced some technical problems with the software we developed in-house, and this reinforced our decision to contract such efforts to the private sector. We still expect the use of hand-held devices to save us administrative costs. One is through the ability to electronically remove late mail returns from the nonresponse follow-up workload on a daily basis. The second is the ability to collect census payroll information for temporary workers directly on the hand-held devices, thereby reducing paperwork and staffing needs for our field offices.

- **Have you used your census tests in 2004 and 2006 to inform your cost estimates? (GAO says they did not)**

  Results from these relatively small site tests have limited usefulness for studying our cost estimates for the entire 2010 Census. In addition to the fact that we cannot replicate decennial census conditions in terms of public awareness and interest, the results from the test sites cannot be generalized to 2010 because the sites were selected purposively, not probabilistically. However, to the extent possible, we are trying to learn as much as we can from these tests. For example, one objective of the 2006 Census Test is to

determine if our additional use of automation (such as hand-held computers) can reduce space needs for our field offices due to less paper being generated.

- **In January 2004, GAO recommended that the Census Bureau provide Congress with a master planning document detailing the plans for implementation and associated costs. At the hearing, you provided the 2010 Census Estimated Life Cycle Costs document, but GAO indicated that this was not as detailed a document as it recommended you provide. Does the Census Bureau have plans to provide Congress with a budget document in line with the GAO recommendation in the near future?**

  The Census Bureau expressed strong disagreement with the Government Accountability Office's (GAO) 2004 report finding that the planning process was being impeded by the lack of one comprehensive document that contained all necessary methodological, budgetary, operational, risk assessment, contingency planning, and other related information. Nonetheless, we agreed to prepare a document that combined the information already contained in key planning documents previously forwarded to the GAO. However, we also restated the position of the Office of Management and Budget (OMB) that the annual budget submission process is the appropriate vehicle for providing comprehensive and detailed cost information on 2010 Census planning.

- **GAO has indicated that the Census Bureau should develop as part of its budget justification an explanation of its key budget assumptions for the 2010 Census. As part of these documents, GAO indicated that these should have lower and upper ends of possible costs. Do you have plans to develop budget information for Congress to help us understand the likelihood of certain cost assumptions to increase or decrease?**

  Most of the cost of the decennial census is related to the personal visit follow-up to households that do not respond by mail. Therefore, the three most critical budget assumptions are the estimated mail response rate, the productivity rate (i.e., the estimated number of follow-up visits that can be completed per day), and pay rates for the workers conducting these follow-up visits. Many factors, not all of them within the Census Bureau's control, can affect some or all of the actual rates. We have shared our assumptions about these rates, and the basis for them, with the GAO, our Office of Inspector General, and of course with the Department of Commerce and the OMB, as part of the annual budget submission process. In general, for the 2010 Census, our estimates are based on actual Census 2000 costs, adjusted for inflation and workload increases (more people and housing units). We used this same basic approach in estimating life cycle costs for 1990 and 2000, and the approach worked reasonably well. Starting with this adjusted base, we then subtracted estimated savings from the reengineering effort to arrive at our 2010 Census life cycle estimate. Much of this information is documented in our June 2001 life cycle cost estimate document, along with the June 2003 and September 2005 updates to that document. We have enclosed copies of those documents for the record. In some cases, we are doing things that are

new to the decennial census program, but our general approach is to estimate those costs based on our experience with similar activities during previous censuses.

Online Census

- **One of the reasons you cited for discontinuing plans for an online census is that your tests did not conclude that savings would be achieved. Do you believe that it would be *more* costly to do the census online?**

  Yes. If offering an Internet response option does not increase overall response rates, then the costs required to develop and maintain a secure online option would increase the overall cost of the 2010 Census.

- **The Census Bureau has raised concerns that an online census design would be used once and thrown away, making it a big risk if it doesn't work. Why can you not develop an internet platform that can be used both for the short-form census as well as the American Community Survey, which is administered every month?**

  Offering an Internet response option for the ACS would be even more expensive. The 2010 Census will only ask a few basic demographic questions for each individual, but the ACS asks many more questions on a wider range of topics, including such things as income, educational attainment, marital status, and citizenship. We have tested the use of an Internet response option for the ACS and did not observe any increase in overall response here either. In fact, we actually observed an overall decrease in response. Although we might be able to reduce the risk of operational failure by using an Internet platform over a longer time period, everything we have seen indicates that there would be neither short-term nor long-term cost-savings. It is also not clear that the infrastructures could be similar, given the significant differences in the workload for the 2010 Census and the ACS.

- **What is OMB's position on moving forward with an online census? Does the Administration support your decision to not move forward?**

  We are not aware of any position that the OMB has taken on this matter.

- **How much has the Census Bureau coordinated with OMB on the issue of developing an e-government option for the Census Bureau?**

  In relation to the 24 E-Government initiatives sponsored by the OMB, the Census Bureau is actively participating in the Geospatial Information One Stop through enhancements to the MAF/TIGER System; the E-Business Gateway Initiative developing a one-stop shop for all e-forms; and is looking at the possibility of using the systems that result from the E-Payroll Initiatives to meet its 2010 Census field staff hiring and payment requirements. Census Taker, a major E-Government initiative by the Census Bureau, is a data

collection agent that is already involved in compiling 20 different economic surveys for the Census Bureau.

- **Similarly, according to the Pew Internet Project, 73% of American adults have online access. What do you believe is the proper response to the American public, which increasingly expects to access its government online, but won't be able to do so in 2010?**

  We would provide the American public with the same information we have provided to the Congress and to all of our other stakeholders. Namely, we tested the online response option and found that (1) it did not save money (in fact, it would *add* to the cost of the 2010 Census), and (2) that we believed it would increase the likelihood of both real and perceived threats to the confidentiality of personal data provided to us by the public.

Questions for the Record from Sen. Carper, Census Hearing 6/6/2006

Addressed to Louis Kincannon

1. **As stated in the hearing, the Census Bureau will not provide an Internet online reporting capability for the 2010 Census. Therefore, does the Bureau plan to facilitate a pilot Internet online reporting capability in 2010? If so, would the Bureau or contractor develop the online capability, and how will the Bureau plan to review the performance of the online capability at the conclusion of the 2010 Census?**

   The Census Bureau has not made a final decision on whether it will provide this response option for the 2010 Census. We have, however, removed the development of this option from the statement of work for our Decennial Response Integration System (DRIS) contractor. Thus, if we decide to offer this option for the 2010 Census, we would likely develop the system ourselves. In any case, if we offer this option in 2010, we will evaluate its use and customer satisfaction just as we did after Census 2000. We have not determined if we would conduct a pilot program in 2010, if we decide not to offer this option nationwide. We have not yet developed the details of our Internet evaluation and experimentation program for the 2010 Census.

2. **In 2002, the Census Bureau released a final report on the Internet Data Collection of the 2000 Census. In the report, the Bureau states that the 2000 Internet Data Collection was a huge success and that the Internet is here to stay. Why did the Bureau choose to rebut these conclusions in May of 2006, with the elimination of the Internet online data reporting capability from the Decennial Response Integration System (DRIS) contract?**

   Our 2002 report concluded that "Overall, 91 percent of respondents were satisfied with the Census 2000 Internet Form. Given the high levels of customer satisfaction, Internet Data Collection demonstrated a strong potential for large-scale implementation in 2010." Those conclusions are what led us to conduct formal testing and research on this option during the 2003 and 2005 National Census Tests. However, the results of those tests have not been so positive, as we described at the hearing. While use of the Internet has grown since 2000, so has abuse—cyber crimes, identity thefts, phishing schemes, and the like.

3. **For the 2010 Census, enumerators will be using, for the first time, handheld messaging devices (MCD). Technical problems were revealed with the equipment in 2004 and 2006. If an enumerator experiences technical problems with a MCD while in the field on Census Day 2010, what is the back-up plan for the enumerator?**

   We have not developed the final support plan for the 2010 Census. However, our current plan calls for crew leaders (CLs) to provide first-level MCD support for their enumerators. Each CL will have a spare MCD to provide the enumerator, if the CL

cannot get the equipment working after doing very basic troubleshooting. During Address Canvassing and Nonresponse Follow-up operations, the contractor will provide on-site technical support in the Local Census Offices. These technical experts will maintain a supply of spare equipment and will be trained to build and swap out equipment on demand. The intent is to get a new device in the hands of the enumerator as quickly as possible.

4. **How does the Census Bureau plan to train the enumerators on the new MCDs?**

   We are still working out the details with our contractor. However, it is likely that MCD training will consist of a combination of self-study exercises using Computer-Based Training on the MCD, in-class instruction and exercises, and actual field assignments conducted using the MCDs.

5. **To date, the Bureau has yet to put-together a comprehensive project plan for the 2010 Census that includes milestones for key activities and an itemized cost for each component. Does the Bureau plan to develop a project plan? If so, when will the project plan be available?**

   In response to a recommendation from the GAO, the Census Bureau agreed to prepare a document that combined the information already contained in key planning documents previously forwarded to the GAO. However, we also restated the position of the OMB that the annual budget submission process is the appropriate vehicle for providing comprehensive and detailed cost information on the 2010 Census planning.

Enclosures

United States Government Accountability Office
Washington, DC 20548

July 13, 2006

The Honorable Tom Coburn
Chairman
The Honorable Thomas Carper
Ranking Minority Member
Subcommittee on Federal Financial Management,
Government Information, and International Security
Committee on Homeland Security and Governmental Affairs,
United States Senate

On June 20, 2006, you requested that we respond to questions for the official record regarding the subcommittee's June 6, 2006 hearing, "Census 2010, Off-Line and Off Budget: The High-Cost of Low-Tech Counting." The following is our response to your questions. Because our response is based primarily on our previous work, we did not obtain comments from the Department of Commerce.

Responses to Questions for the Official Record from Chairman Coburn

1. GAO has raised serious concerns about the rising costs associated with implementing the decennial census. Do you believe that the $11.3 billion estimate is accurate? If not, what do you believe is a more accurate cost estimate for the 2010 Census?

It is not possible to determine the validity of the Bureau's $11.3 billion life-cycle cost estimate because it is not supported by timely or complete data. Without better information we are unable to verify that the estimate is accurate. Specifically, the Bureau's life-cycle cost estimate was last updated in September 2005, but the estimate does not reflect the most current information from the 2004 testing and evaluation procedures nor provide information on how changing assumptions may affect cost. In our June 6 testimony, we highlighted several risk factors, such as the reliability of the hand-held device and conducting operations in areas affected by hurricanes Katrina and Rita that could increase the life-cycle cost estimate beyond $11.3 billion.

2. Why do you feel that it is so important for the Census Bureau to comply with GAO's recommendation to produce a master planning document for use by Congress and the public in evaluating the ten-year costs of the Census?

An operational plan that consolidates budget, methodological, and other relevant information about the 2010 Census into a single, comprehensive project plan that

could be updated as needed would help Congress oversee how the Bureau plans to spend funds to implement the 2010 Census. Such a document would inform Congress on where the Bureau $11.3 billion estimate will go, as the bulk of the funds will be spent between fiscal years 2007 through 2013. In January 2004, we recommended that such a plan should include

- specific performance goals, how the Bureau's efforts, procedures and projects contribute to those goals, and what performance measures would be used;
- risk and mitigation plans that fully address all significant potential risks;
- detailed milestone estimates that identify all significant interrelationships; and
- annually updated life-cycle cost estimates, including a sensitivity analysis, and an explanation of significant changes in the assumptions on which these costs are based.

3. Do you believe that the investment by the Census Bureau into the 500,000 hand-held devices will help it achieve savings over the 2000 Census costs? Or, do you believe it will cause costs to increase?

To help reduce the operational risk, increase the coverage and accuracy of the census, and contain costs, the Bureau has reengineered the decennial for 2010—an effort supported by GAO. One component of this effort is the short-form only census and use of hand-held devices. As we stated in our June 6 testimony, if these devices work as intended, they would allow the Bureau to automate operations and would save money by eliminating the need to print millions of paper maps and questionnaires used by census workers in the field. The devices could also allow the Bureau to remove late mail returns from enumerators' assignments. During the 2004 Census Test, the hand-held devices allowed the Bureau to successfully remove over 7,000 late mail returns, thereby reducing the nonresponse follow-up workload by nearly 6 percent. The ability to remove late mail returns from the Bureau's nonresponse follow-up workload reduces costs because census workers no longer need to make expensive follow-up visits to households that returned their questionnaire after the mail-back deadline.

However, in our view, if the devices fail to work, they could raise costs. As stated in our June 6 testimony, during the 2004 and 2006 tests, the hand-held device experienced technical difficulties, raising concerns about the Bureau's ability to collect and transmit data using the device. Thus, it is possible that if problems still persist after the Dress Rehearsal when a new device will be tested, additional funds may be required to fix those problems.

4. How likely do you believe it is that the hand-held devices will not work at all during the 2010 Census?

The new model of the hand-held device has not been tested; therefore, its effectiveness is not known. However, what is known is that previously the device did not function as intended, and the new device will not be tested until the 2008 Dress Rehearsal. If problems do emerge, little time will remain to develop, test, and incorporate refinements. This constitutes a risk to the cost-effective implementation of the 2010 census. Specifically, during the 2004 test of nonresponse follow-up and

the 2006 test of address canvassing, the hand-held devices experienced significant reliability problems. The Bureau has acknowledged that the hand-held device's performance is an issue but believes it will be addressed by a contract that was awarded on March 30, 2006 to develop a new device to be used for 2010. As stated before, this new hand-held device will not be tested until the 2008 Dress Rehearsal, leaving little time to address any significant problems.

5. What effect would it have on the cost of the Census for enumerators to resort to pencil and paper for the counting of households?

At this time, if the Bureau were to resort to pencil and paper to conduct nonresponse follow-up, we believe the cost of the 2010 census could likely increase because most of its procedures and systems are being designed around collecting census data in the field via the hand-held device. For example, some changes that would impact the cost would be (1) the need to print millions of paper questionnaires and maps; (2) the need to revise the requirements in the Decennial Response Integration System (DRIS) and field data collection and automation (FDCA) contracts to collect and scan data from paper rather than electronically; and (3) the loss of the Bureau's ability to electronically remove late mail returns on a daily basis. It is imperative that the latest model of the hand-held device that is being developed under the FDCA contract function as intended.

6. How feasible is it at this point to develop and implement an on-line census option by 2010?

As we testified on June 6, the Bureau did not develop a formal business case for removing the Internet option from the DRIS contract, and has not made a final decision on dropping this option entirely. Bureau officials stated, however, that if the Bureau decided to go forward with an option to respond to the census on-line, such a capability would be developed in-house. Without more information concerning the Bureau's decision or plans, we are unable to determine whether it will be feasible for the Bureau to develop and implement this option in-house.

As you know, initially the Bureau proposed to develop the use of the Internet under the DRIS contract awarded in October 2005. However, in May 2006, Bureau officials informed us that the Internet response option was no longer a contract requirement and that they are uncertain whether Internet response would even be an option for the 2010 Census. High-level Bureau officials explained that they made the decision to remove the Internet partly because of the potential risks associated with computer security attacks. In addition, according to a Bureau official, the Bureau's testing showed nothing to indicate that offering an Internet response option would improve overall response rates or save any money.

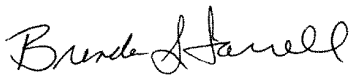
7. You mention in your testimony that the Census Bureau's technology contracts will cost around $1.9 billion overall. How high do you believe the cost may go when the final cost is totaled?

The Bureau's $1.9 billion estimate is for seven major decennial contracts, but to date only three contracts have been awarded. Thus, we do not have sufficient information

to determine the final cost for all seven contracts. The estimated cost of the three contracts that have been awarded total about $1.3 billion: $209 million for updating address and map files, more than $500 million to develop and operate the DRIS, and $600 million for the FDCA contract. As we stated in our June 6 testimony, it will be important for the Bureau to closely monitor all contracts. To date, the address and map contract awarded in June 2002 has operated on schedule and within budget. However, we have not reviewed the contract costs for the other two recently awarded DRIS and FDCA contracts. The four remaining contracts include the Data Access and Dissemination System (DADS II), the 2010 Communications contract for advertising, the 2010 Census printing contracts, and the Decennial Census office leases. Because the Bureau has not awarded these contracts we have little information on the individual costs of those contracts.

Thank you for the opportunity to participate in your June 6, 2006, hearing on the 2010 Census. Please contact me at (202) 512-6806, if you, other subcommittee members, or your staffs have additional questions or if we can provide additional help on these issues.

Sincerely yours,



Brenda S. Farrell
Acting Director
Strategic Issues