

Census Future Program

Martha Farnsworth Riche, *Bureau of the Census*

It is good to have this opportunity to talk to the transportation planning community as the countdown to Census 2000 begins. At least 8 years have been spent in planning it, and the transportation community has had representatives at the table from the beginning. At the next meeting of the Secretary's Advisory Committee, the umbrella committee that advises the Census Bureau on census issues, the move from planning to implementation will begin.

This broad outline of the census plan begins with the reason why a census is taken, because it is actually not to produce journey-to-work data. First, as the Constitution requires, a count of the population of each state is the basis for apportioning representation in Congress, and state legislatures use census data to draw congressional, state, and local legislative districts.

Second, the federal government uses the population counts to annually dispense more than \$100 billion in hundreds of programs to the states. So these counts become more important as more responsibility and funds are passed along to the states.

Third, all levels of government, as well as private organizations, use information from the census to address concerns from housing to health care to employment and education, as well as transportation.

Finally, and perhaps most important, the census is a vital political ritual in which all Americans have the right to be counted equally. It is the place where the doctrine of "one person, one vote" becomes a reality and where it is demonstrated at the most fundamental level that the diversity in this country has a commonality, the American commonality.

Therefore the census really goes to the heart of understanding who we are and where we are going and that is why some of America's best thinkers have concerned themselves with the census. It was Postmaster General Benjamin Franklin who first called for a census, requesting that if Secretary of State Jefferson had any extra copies of census data lying around, the Postmaster General thought that they could be very useful in planning.

Thomas Jefferson was the first Director of the census, and it was Jefferson and George Washington who held the first colloquy about a familiar subject—the perennial undercount in the census. In fact, a historian friend of mine turned up for me the cover letter that Thomas

Jefferson used to send the 1790 census to George Washington; it said, "Here are the census results. The official results are written in black, and the true results, so far as we know them, are written in red."

Unfortunately, he didn't leave any details as to his methodology. At any rate, that is why it is vital that the census be not only accurate but also open and fair. A census that gives every American the right to be counted fairly and to receive a just share of the political and economic rewards that follow census data is an act of public trust. With those perspectives in mind, I want to describe how we intend to conduct Census 2000.

Let me begin by saying that I am very proud of the work of the Census Bureau. Taking the 1990 census was hard, and it was expensive. Our career employees and over 300,000 temporary employees worked for many months to get the job done. No matter what you might have read in the paper, the census was extremely accurate. We counted more than 98 percent of the population—a sterling record for a census in any country in any age—but you know as well as anyone that a good job wasn't good enough.

The Census Bureau spent literally hundreds of millions of dollars tracking down hard-to-reach respondents. In many cases our temporary employees made up to six visits to a housing unit, and they still didn't find everyone. In spite of heroic efforts, we estimate that we missed over 4 million people. They were disproportionately from minority racial and ethnic groups. Our costs climbed to more than \$2.5 billion, and it has taken 6 years for the Supreme Court to resolve all the litigation. But we think that we can do better; we must do better, and we will do better.

Our experience in 1990 taught us that our overarching goals for Census 2000 had to be a census that is simpler, less costly, and more accurate, and at first glance those goals might sound mutually exclusive, but we think we can meet them with four basic objectives:

- We must make every effort to count every resident of the United States, using simple, easy-to-read forms as well as new ways to respond that respect people's convenience.
- We must implement an open process that diverse groups and interests can understand and support.
- We must eliminate the differential in the count of racial and ethnic groups.
- We must produce a "one-number census," one that is right the first time.

Now, that is a big job, and that is why we will conduct Census 2000 in partnership with America, with state and local governments, with business, with community leaders and ordinary citizens all across the country, and, I hope, with you.

During the last census we spent too much money and still didn't count all the people. At the end of it all we were mired in conflict and confusion, and I think this time there is time to do it right if we do it together, starting today.

So I am here today to ask you to work in partnership to produce a census that is both as accurate and as cost-effective as possible; a census that meets your needs, your community needs, and your country's needs; a census that will describe and define America and will unite America.

We have a strategy for a census that will be less expensive than the old strategy by nearly \$1 billion. It will be the most comprehensive in history and faster for you to complete. It will be more useful for people and organizations depending on reliable information about America. Last year we successfully tested the new methods and procedures that will enable us to put this strategy in place. Today I want to tell you about the four elements of our strategy—partnership, simplicity, technology, and statistical methods—so I can ask your help in putting them together and making it work.

First, and most important, we want to build partnerships at every stage of the process. We cannot do everything alone. We need to reach out to find partners to help us get the job done.

We want to work in partnership with state, local, and tribal governments and with community groups. In short, we want to do the 2000 census not for you or to you but with you.

Partnership is key to perhaps the most important innovation we are planning. This is where you come in, so I am going to spend a good bit of my time talking about it.

The most accurate and cost-effective data are obtained when a form is mailed to a housing unit, and someone who lives there fills it out and mails it back in. We don't have to pay an interviewer to go out and ask questions, and our research shows that the data are more accurate if the individual involved fills out the form. The better the address list, the closer we get to this ideal.

Local officials, people like you, and our colleagues in the U.S. Postal Service are our most essential partners because we are asking you to help us create a computerized address list so that we can get a form to every housing unit in America.

Last time, for instance, 5 million of the forms that were mailed out to the housing units were returned as undeliverable by the Postal Service, and our census takers found another million that were undeliverable. This time we want to have them all.

The first step to enabling partnerships took place in the last Congress in the enactment of the Census Address List Improvement Act of 1994, which essentially allows us to share the address list with others outside the Census Bureau and allows the Postal Service to share their address list with us. In the past the Census Bureau bought an address list from a direct mail company, one of those that sends out mail addressed to "Current Resident." This time, instead of spending time and money taking one of those lists and making it usable, we are starting with the Postal Service list. We are going to work with them so that we both avoid the cost of duplication of effort and we get the benefit of their up-to-date knowledge.

Now, also thanks to this legislation, for the first time all designated local officials will have access to this address list, subject to the laws that safeguard confidentiality, so that they can check the list's accuracy, update it, and tell us the kind of changes we need to make. We tried this last year in the 1995 test. It worked well, and I think it is a firm demonstration of our commitment to partnership.

The second step will take place during the next few years, when we are asking each local government to designate someone who will be responsible for reviewing the address list for their community. During the third and final step, for a 2- to 3-month period ending early in 1999, we will ask each of those local liaisons to check the addresses and street pattern we have for their community and tell us what further changes they think we should make.

The only way we could make this important innovation happen is with the help of state and local governments. We already have written commitments from virtually every state—in fact, from every state but Florida, in which the state government thinks it can do better on its own.

We need your help in ensuring that local officials take full advantage of this opportunity. If you have any ideas as to how to make this happen, I hope you will talk to Bob LaMacchia, who is here at this meeting.

We would like the help of the transportation community and the help of your colleagues in three specific ways: first, to improve the address-matching capability of the Topological Integrated Geographic Encoding and Referencing (TIGER) data base; second, to correctly locate the many unassignable addresses that we receive from the Postal Service, many of which are for businesses and industrial facilities where people work (I believe you have great interest in projecting rush-hour traffic flows); and third, to encourage local governments in the areas under the jurisdiction of each metropolitan planning organization (MPO) to provide our local regional offices with their complete address list in a format that is described in the *Federal Register*. That will help us improve the completeness of our address list.

I don't have to remind you that every work trip has two ends, one of which is the residence. If you can help in those three ways, you will help us add many new streets to the TIGER data base. You will help us fill in the address ranges along both the existing and the new streets and especially the address ranges in commercial and industrial areas that we have been missing for so long and the lack of which reduced the value of the 1990 Census Transportation Planning Package. You will help us develop a complete address list correctly linked to the TIGER data base for Census 2000.

I know that many of you and your MPOs are already working with us in the TIGER improvement program. This process is of overwhelming magnitude; there are 39,000 jurisdic-

tions in the United States. Getting local officials to work in this kind of serious partnership is really overwhelming to us, but we are moving ahead.

However, as we move ahead we are likely to be severely constrained by the budget process during the next year. Last week was when we finally got our budget, over 6 months into the year. If that happens to us next year, as some think is very likely, we will be working on a continuing resolution that keeps us spending in 1997 as if it were 1996, right at the time that our census budget is supposed to start doubling. That will endanger our project severely. I am sorry to say that the first thing we would need to drop given that kind of money would be resolving the locations of nonresidential addresses so that we could meet our goal of having a perfect residential address list by census time. So we really need your help to keep that work going.

Finally, in a few years we are also going to be asking your help, again thanks to the legislation that passed in the last Congress, in assigning every place-of-work address to its correct block and census tract in 2000. I know that our failure to do this, or to do better at this, in 1990 was a big disappointment to you. With your early help on the TIGER data base and address list improvement process and your later help with the uncoded place-of-work addresses for the census, I think we can make Census 2000 a big success for you as well as for our country.

Now, besides the address list, I want to talk about the partnership strategy in general, because it is predicated on a single theme: obtaining the Best in Class for every census activity from whatever source necessary. Naturally that is leading us into partnerships with business. Many business people provide services every day that we are only called upon to provide every 10 years. In particular many businesses stay on the cutting edge of new technology and new equipment, whereas our practice has been to undergo a long procurement process for machines that are out of date by the time we get them, and then we mothball them.

This time our plan is to let the taxpayer reap the advantage of the business world's learning curve. We plan to go to the private sector and work with data-processing companies to capture the data and to turn paper census forms into electronic files. We are also looking at partnerships to interview, hire, and train the hundreds of thousands of temporary employees working in the greatest peacetime mobilization in our society, and we are definitely planning to work with advertising and public relations companies to promote the census more visibly and more effectively.

In short, we believe that partnerships ensure that the best provider does the work while ensuring that the census retains the high level of accountability and integrity that only a public institution can deliver. If you have suggestions along the lines of private-sector partnerships or any other kinds of partnerships, please pass those on, too.

I have talked a long time about our partnership strategy, but that is what is most relevant here. I will go more briefly over the other three strategies.

The second strategy is to keep it simple. The simpler and easier it is for people to respond, the more likely they are to respond and that increases accuracy and lowers cost. Thus, we are building simplicity into the system every way we can.

First, we are working with private designers to create user-friendly forms that are easier to read and fill out. There are actually 17 prototype forms being tested right now. When I got all 17 forms in my mail one day, my favorite was one that stood out because of its unusual shape.

Our design constraints are not only that they be user-friendly, easier to read, and easier to fill out, but also that they be less costly for the Postal Service to handle and for us to process using machine processing.

For the last census, all people got in the mail was the census form, which looked sort of like the IRS form. There was no advance notification. There were no ads on television or in the papers because the Census Bureau was still relying on public service announcements. That type of notification worked fine when there were only three networks, but in 1990, as you may recall, the communications business fragmented, and public service announcements tended to air at 3:00 a.m.

Therefore, another strategy for Census 2000 will be to embed the forms into a direct-mail campaign that lets people know the census is coming and markets its benefits for them and

their community. It has never really been recognized or acknowledged before, but the U.S. census is the largest direct-mail campaign in the world, and we intend to treat it that way this time. There will be advertising, as I mentioned earlier, but there will also be letters to let people know it is coming.

This time we are buying ads, and you will see the ads. You will get the notification. The envelope will be a marketing package. We have held focus groups around the country where we did the census tests. Reapportioning Congress isn't what comes to their minds as something that they are really interested in, but they are very interested in their communities, their schools, their roads, their health care. Those concerns will be incorporated into the package so that people will understand what they get out of responding to the census.

You may recall that the census package used to include a long letter from the Director. I saw the ones from the last year's census tests, in small print with my name at the bottom, which assumed that everybody who was getting the letter had at least a year or two of college education. Oddly enough, our own data tell us that this isn't true.

The new form assumes an eighth-grade education. It is very simple, with just a little introduction called "Getting Started," giving the information needed with arrows that indicate where to look, and one page each for person 1, person 2, person 3, ending with person 5. It turns out we have got 98 percent of households by the time we have those with five people in them, but there is also a space to list persons 6, 7, and 8 for large households. If you fill out all of these saying that you have eight people living in your household, we will call you up just to make sure there isn't a ninth one there. This is a beginning. We have got more work to do. We found that by keeping things simple and by taking a direct-marketing approach, we are increasing the response rate, which in general continues to decrease.

In addition to that, we are offering people more ways to respond. In the past the form had to come to your mailbox. Our first priority is still the delivery of a form to every address, but we are also going to put extra forms in stores, malls, civic centers, community centers, and in other places where our local partners tell us that people tend to go. Extra forms could be placed in missions for people who probably don't have homes or addresses or places to go and who also might not trust anybody else but would trust the staff at the mission.

New matching software has been developed to detect duplicates in case people send in more than one form. We will also have a well-publicized 800 number to call, and as you can imagine, we are looking at the Internet. The problem there is the issue of confidentiality.

Our third strategy is to use technology intelligently. As you know, there have been dramatic advances in computing technology, and we are planning to use those also to make the process simpler, cheaper, and more accurate.

In 1990 forms were transferred to microfilm and then the written entries and the ones in which you check a box were entered by hand into a computer. As you can imagine, there is room for a lot of error there. In 2000 we will make a digital picture of completed forms, and we will use computers that read handwriting to go directly from the forms to computers ready for tabulation. You may think that is pie in the sky, but the state of Maryland has been using this technology for 3 years to process income tax returns. This technology is going to reduce a major source of human error because it eliminates the hours spent trying to read people's handwriting and type it into a machine, and it is obviously going to substantially reduce the number of temporary workers needed, something that Maryland found out as well.

As I said, we will use sophisticated matching software to spot duplications, and then finally, when the results are all ready, we will deliver them electronically.

Our fourth strategy is to make better use of statistical methods. As you know, sampling and statistical estimation are already an integral part of the census because the data that you really care about are taken from a sample. For the first 150 years of census history we asked every person for all the data the government wanted for making policies and managing programs as well as for reapportionment. In fact, history says that Herman Hollerith invented the punch card in 1890 because that was the only way the 1890 data were going to be processed in time to start the 1900 census. Hollerith's company merged with two other businesses and eventually became International Business Machines. So it worked out well for him as well as for us.

Since 1940, we have only asked a sample of Americans all those program-related questions. Some very noted statisticians came to work with the Census Bureau during the 1930s and got us into sampling in a big way, and we have been using it more every since, and we plan to increase it still more in 2000.

Here is how it is going to work. It costs six times as much to visit respondents to have them fill in the census forms than to get them mailed back already filled in. If we have to go back over and over again to find the final missing individuals, it costs 18 times as much, and we still don't find everybody. Eventually we run out of time and use a lot of ad hoc procedures to finish up.

This time, after we make every effort to secure a voluntary response, we are going to visit a sample of the most unresponsive households in each community, and we will use that sample as the basis for completing the count. We will be using scientific sampling instead of ad hoc methods at the very end, and we will be using it in a way that will enable us to save a considerable amount of money. We did this in the 1995 test, and it allowed us to complete the census on schedule for the first time ever as well as to reduce our costs. In fact, we learned from the 1995 test that the sampling of unresponsive households may not be just an attractive cost-savings option, it may be the only option we now have for completing the census.

Historically we have recruited large numbers of census takers among people who were not in the labor force. We need temporary full-time workers, not part-timers, which generally means those who are not already in the labor force. The people that we hired tended to have previous work experience and skills, so we only had to train them for the technical tasks at hand. Today the pool of available census takers who are qualified and have had enough work experience has decreased dramatically just at a time when responsiveness of the public has decreased as well. The experience with the 1995 test suggested that we could not do the census in the old way even if we wanted to and if Congress were inclined to give us enough money to do it.

In addition to using sampling, we now use follow-up to check all of our work—the forms we get by mail, the forms we get by visits to people's homes, and the forms that we estimate for those last unresponsive housing units. We will check all of them with another separate intense sample survey as a quality control, and on the basis of the 1995 test, we will be able to complete this quality control procedure in time to provide one set of numbers to the President by the due date, December 31, 2000.

In short, these procedures will lead to a "one-number census," a census that should prevent rancor and litigation. Most important of all, it should give Americans a clear, correct, and comprehensive idea of who we are and who we are becoming. The value of the census to Americans is not just as a snapshot that we use to keep our democracy truly representative but also as an in-depth portrait of our communities that we depend on to govern effectively.

With the strategies of partnership, simplicity, technology, and statistical methods, we will deliver a Census 2000 that is both more accurate and less costly. With appropriate funding and with your help on the address list and in the other areas I have described, the Census Bureau intends to deliver a census in 2000 that we can all be proud of and that you can rely on to meet your challenges throughout the decade.

I conclude by asking you to share our excitement about the possibilities of this new age of information and by seeking your confidence, your support, and your commitment to be our partners in the 4 years ahead.