

1052-B

Y4 ACCURACY OF CENSUS TAKING IN SMALL COMMUNITIES
.Ag 8/3 AND RURAL AREAS

96/4
Ag 8/3
C 33

C 33

GOVERNMENT
Storage

DOCUMENTS

DEC 8 1980

FARRELL LIBRARY
KANSAS STATE UNIVERSITY

HEARING

BEFORE THE

SUBCOMMITTEE ON RURAL DEVELOPMENT

OF THE

COMMITTEE ON AGRICULTURE,

NUTRITION, AND FORESTRY

UNITED STATES SENATE

NINETY-SIXTH CONGRESS

SECOND SESSION

SEPTEMBER 18, 1980

Printed for the use of the Committee on Agriculture, Nutrition, and Forestry

KSU LIBRARIES



56894 006TTA
A11900 448395



U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1980

DOCUMENTS

DEC 8 1980

FARRIS LIBRARY
KANSAS STATE UNIVERSITY

COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY

HERMAN E. TALMADGE, Georgia, *Chairman*

GEORGE McGOVERN, South Dakota
WALTER D. HUDDLESTON, Kentucky
RICHARD B. STONE, Florida
PATRICK J. LEAHY, Vermont
EDWARD ZORINSKY, Nebraska
JOHN MELCHER, Montana
DONALD W. STEWART, Alabama
DAVID H. PRYOR, Arkansas
DAVID L. BOREN, Oklahoma

JESSE HELMS, North Carolina
MILTON R. YOUNG, North Dakota
BOB DOLE, Kansas
S. I. HAYAKAWA, California
RICHARD G. LUGAR, Indiana
THAD COCHRAN, Mississippi
RUDY BOSCHWITZ, Minnesota
ROGER W. JEPSEN, Iowa

HENRY J. CASSO, *Staff Director*

CARL P. ROSE, *General Counsel*

GEORGE S. DUNLOP, *Minority Staff Director*

SUBCOMMITTEE ON RURAL DEVELOPMENT

PATRICK J. LEAHY, Vermont, *Chairman*

DONALD W. STEWART, Alabama
DAVID H. PRYOR, Arkansas
DAVID L. BOREN, Oklahoma

RUDY BOSCHWITZ, Minnesota
MILTON R. YOUNG, North Dakota
ROGER W. JEPSEN, Iowa

Ex Officio Members

HERMAN E. TALMADGE, Georgia

JESSE HELMS, North Carolina

CONTENTS

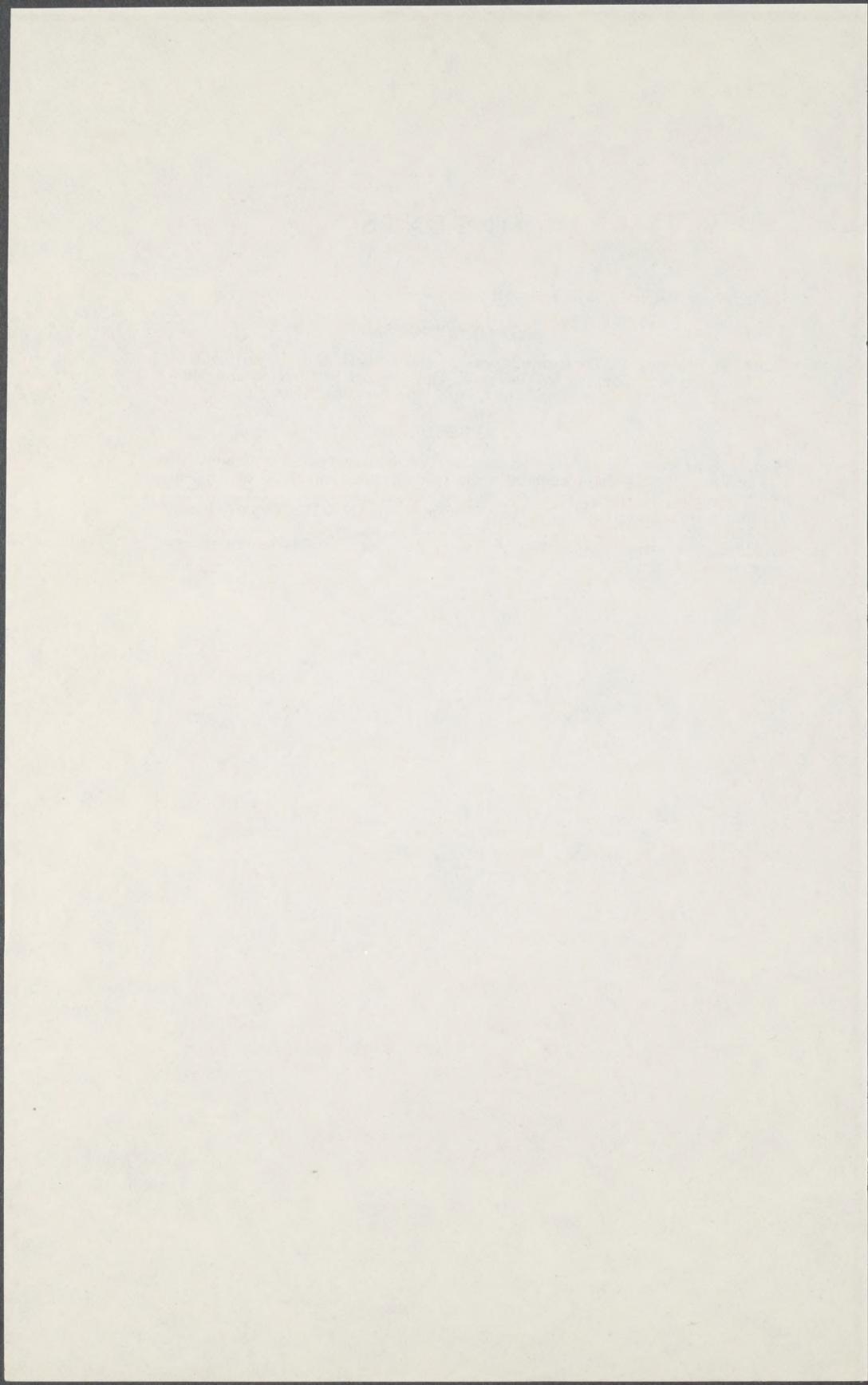
Leahy, Hon. Patrick J., a U.S. Senator from Vermont, opening statement.....	Page 1
---	-----------

LIST OF WITNESSES

Barabba, Vincent P., Director, Bureau of the Census, U.S. Department of Commerce; accompanied by George E. Hall, Associate Director and Marshall L. Turner, Jr., Assistant Chief, Data User Services Division	3
---	---

APPENDIX

Leahy, Hon. Patrick J., a U.S. Senator from Vermont, prepared statement.....	17
“Plans for Coverage Improvement in the 1980 Census,” submitted by Vincent P. Barabba, U.S. Department of Commerce.....	18
Letter to Hon. Barry Goldwater from Vincent P. Barabba, U.S. Department of Commerce	29
Additional questions from Senator Leahy and Mr. Barabba’s written responses.....	31



ACCURACY OF CENSUS TAKING IN SMALL COMMUNITIES AND RURAL AREAS

THURSDAY, SEPTEMBER 18, 1980

U.S. SENATE,
SUBCOMMITTEE ON RURAL DEVELOPMENT OF THE
COMMITTEE ON AGRICULTURE,
NUTRITION, AND FORESTRY,
Washington, D.C.

The subcommittee met, pursuant to notice, at 1:09 p.m., in room 357, Russell Senate Office Building, Hon. Patrick Leahy (chairman of the subcommittee) presiding.

Present: Senator Leahy.

STATEMENT OF HON. PATRICK J. LEAHY, A U.S. SENATOR FROM VERMONT

Senator LEAHY. The Rural Development Subcommittee will come to order. First off, I would apologize for being late. Senator Byrd called an unexpected meeting, and although all Senators are equal, there is a thing called the seniority system and those of us especially who are in our first term tend always to respond when the majority leader says that he would like to see us if it is convenient. It is always convenient.

I will place my full statement in the record,¹ but to summarize, I would like to say that over the past few weeks there has been a claim of undercounting in major urban areas in the 1980 census, and this has captured a lot of the headlines.

We have seen some angry big city mayors charging that the census findings have misrepresented their communities, but nowhere in any of these articles have I seen any mention of the accuracy of the census in small communities and rural areas.

This hearing is to bring rural equity in the census to the attention of the Census Bureau, and I will purposely confine it to the question of rural areas.

But I would mention the large cities for a moment for this reason. Large cities are clamoring for the inclusion of undercount estimates in their area's official census report. Why? Because over \$50 billion in Federal aid is distributed according to census figures that are factored into Federal program funding formulas.

A draft OMB study shows that this figure may be as high as \$100 to \$150 billion when you include State and local programs which also rely upon national census figures.

¹See p. 17 for the prepared statement of Senator Leahy.

Now, all census counts fail to record many people. It would be, I suspect, virtually impossible to make an absolutely accurate census count. The 1970 census missed over 5 million Americans.

The cities want their share of this missed population credited to them to increase their receipt of Federal dollars, and some have even brought suit to bring this about.

Now, the person responsible for deciding Federal policy and the inclusion of the undercount in the final census report is our witness today, Mr. Vincent Barabba, Director of the Bureau of the Census.

I hope that the hearing will convince you, sir, and your department that there should be no urban bias in the policy. If undercounts are going to pad large city census results, then the same favorable policy should extend to all of the over 39,000 local governments in this Nation, irrespective of their size.

In the census of 1950, 1960, and 1970, the undercounts were highest for the nonmetropolitan or rural areas. I believe we can expect this to reoccur in 1980. I am hopeful that this fact will be recognized by any Census Bureau policy on the undercount.

John Kenneth Galbraith once said that societies never really become effectively concerned with social problems until they learn to measure them, and yet while statistics have consistently shown that rural areas bear a disproportionate burden of housing and health and transportation and other social needs, our Federal Government has displayed a glaring urban bias in where it sends money to alleviate these social ills.

The census undercount would place rural areas in a double bind because those persons most often missed tend to be the poor and the minorities, groups most often in need and often targeted to receive Federal assistance.

This is an area I have been concerned with since coming to the Senate. Even though the Bureau of the Census has complied with my appropriations report language to reduce the rural undercount by improving its data gathering techniques in those areas, I am concerned that the 1980 census adequately measured the reverse migration in America, reverse migration which shows a trend in recent years where America's small towns are growing faster than the largest cities.

And without an accurate census confirmation of this reversal, the Government and Congress will be unable to respond in an equitable manner.

I do want to thank Mr. Barabba for agreeing to discuss these issues with us on what has been quite short notice. I should explain the reason for that short notice. I serve on a Judiciary subcommittee which has been busy of late in an investigation, and it has been hard almost to tell day by day when we will be meeting, and while we have wanted to hold this hearing for some time, we just have not known when I can be sure to be here.

Sir, under your directorship, the Bureau of the Census has done admirable and professional work on what has to be one of the most difficult tasks in our Government, and your response to the concerns of small communities and this subcommittee have always been prompt, they have always been forthright.

We greatly appreciate that. We are pleased to have you here today. The forum is now yours.

STATEMENT OF VINCENT P. BARABBA, DIRECTOR, BUREAU OF THE CENSUS, U.S. DEPARTMENT OF COMMERCE; ACCOMPANIED BY GEORGE E. HALL, ASSOCIATE DIRECTOR, AND MARSHALL L. TURNER, JR., ASSISTANT CHIEF, DATA USER SERVICES DIVISION

Mr. BARABBA. Thank you, Senator.

I have with me Mr. George Hall, who is the Associate Director for Demographic Fields in the Census Bureau, the area that is most directly responsible for the conduct of the decennial census, and Mr. Marshall Turner, who is with our Data User Service Division.

We thank you for the opportunity to brief your subcommittee on the status of the 1980 census, and we are well aware of your long-standing concerns about the census, and it is, we believe, that kind of constructive criticism that you have brought forward that keeps us as responsive as we ought to be, and we will also discuss your concern relative to the undercount and focus in on what your, I think, very appropriate language in your appropriations amendment dealt with relative to improving the data for smaller communities and rural areas.

I would just like to put up a chart, if I could, Senator, which, I think, reenforces your comment about the importance of the areas, particularly in your identification of rural. We happen to call that nonmetropolitan in the Census Bureau, but it is very close, I think, to your definition.

It shows that between the period 1970 and 1979 whereas the central cities of metropolitan areas had declined in population of about 4 percent that in the nonmetropolitan areas that there has been an increase of 12 percent.

Now, in actual numbers that demonstrates that in the nonmetropolitan areas in 1970 there was approximately 63 million people and whereas in 1979 we estimate that it has increased to about 70 million whereas in the central cities of metropolitan areas, they had a population of about 63 million in 1970 and that has declined to about 60½ million in 1979.

As it relates to the census itself, in spite of some of the things you might have heard in the papers, the field work has been completed in over 95 percent of the country with the bulk of the uncompleted work being recanvassing in connection with our local review program.

This was accomplished through the returns of forms by mail from about 86 percent of all occupied housing units in what we refer to as the mailout/mailback areas of the country, a followup of the housing units from which the mail return was not received, and then about 5 percent of the country through the personal enumeration of housing units in nonmail census areas in very sparsely settled areas primarily in the West.

Now, with regard to census coverage, when the planning for the 1980 census began in mid-1973, we set as our top priority the development of a program to improve completeness and accuracy of the census counts.

Since we have submitted a staff paper, entitled "Plans for Coverage Improvement in the 1980 Census," that describes that work in detail, I will not list those items for you.¹

Senator LEAHY. Thank you.

Mr. BARABBA. But in addition to the operational efforts to improve the census coverage, the Census Bureau established two major outreach programs as further steps to help ensure the complete and accurate counts of the population and housing.

Those are identified as the complete count committees and the local review program. Now, the complete count committees consisted of citizens appointed by the principal elected officials in the States, counties, and municipalities, and their purpose was to encourage public cooperation with the census.

All 39,000 local governments were invited to form committees and the available feedback indicates that about 4,000 areas did take part in this program by promoting the census in local media and through participation of local organizations.

The local review program asked the assistance of local government officials in spotting possible errors in the early census working figures as they were compiled this summer. This review was accomplished while census workers were still in the field, permitting us to verify local evidence of errors and to make necessary corrections.

As an example, approximately 70 Vermont communities took part in this voluntary activity. Over half of them indicated satisfaction with the census figures. The remaining jurisdictions worked with us to resolve the suspected problems.

Now, with regard to the topic, I believe, of most concern to you, the census undercount and the issue of adjusting the census results, we are keenly aware of the importance of these matters, and in that connection, I would like to note that the Bureau personnel for the past 30 years has been at the forefront in both the theoretical and methodological work for measuring the undercount and exploring possible approaches that might be used to correct or to minimize this problem.

Beginning with our analysis of the 1950 census and continuing through 1960 and 1970, we have documented and voluntarily published critiques of our own work, including descriptions of both our successes and shortcomings.

I, sometimes identify, Senator, that the Bureau of the Census is one of the few agencies of Government that is not only willing to admit that it did not complete its job satisfactorily but quite precisely estimates the extent to which it did not do so.

Senator LEAHY. You are not like the woman who was referred to on CBS this morning—I do not know if you heard the radio.

Mr. BARABBA. Yes, I heard it.

Senator LEAHY. For those who did not, they had a discussion, about a 5-minute discussion of these hearings, and Mr. Jones told a story of the census taker who knocked on a door. A woman answered that she was far too busy to answer his questions.

But he said, "It is quite important." She said, "Why?" And he responded, "Well, we are trying to find out how many people there are in the United States." She said, "Well, you are asking the

¹See p. 18.

wrong person. I would not have the foggiest idea," and closed the door. [Laughter.]

Mr. BARABBA. There is another version of the story, Senator, where the enumerator is talking to the lady and says, "We need to get the population of the United States." She said, "Well, dummy, why don't you look in the Statistical Abstract." [Laughter.]

Well, we have been discussing this issue, and up until this decade, of course, it has really been one more of academic interest or a theoretical interest in evaluating the quality of the count.

However, the vastly expanded Federal programs for returning funds to State and local governments and a heightened group consciousness within the country have combined to focus unprecedented public and congressional attention on whether or not to adjust the 1980 census figures for possible undercount.

Now, those geographic areas and interest groups who feel that they were affected by the disparity shown in 1970 naturally line up in favor of adjustment. On the other hand, those groups at State and local jurisdictions who would be adversely affected by any adjustment of the headcount figures are, in our judgment, likely to oppose them.

This is a topic, however, on which so far I think there has been much more heat than there has been light. It is not so clear, for example, that urban areas would benefit from adjustment.

Consequently, when I returned to the Bureau in mid-1979, I committed myself to develop a procedure that would allow those with a stake in the outcome to surface their basic concerns as well as recommend a possible solution in as open and public a way as possible.

The issues involved in this instance are both complex and fundamental. They are complex in the sense that when you move beyond national totals, statisticians and demographers can disagree about the validity of various methodological approaches. They are fundamental in the sense that any outcome will have an effect on the basic distributions of economic and political power within our society.

However, I can certainly assure you, Mr. Chairman, that the decision we reach, and I make this with utmost certainty, because we have been working on it for sometime now, will have, relative to this problem, the census data which will treat all groups and communities in the most equitable manner that is technically possible to achieve, should the decision be made to adjust.

And for this pivotal requirement to be met, any adjustment of census data must be based on statistically acceptable procedures.

Now, to ensure that our study of this issue would be open and would produce better knowledge about the major problems, we held a workshop in September of 1979 which identified the basic assumptions which, at that time, seemed to be most important.

We sponsored a 2-day conference in February of this year which brought together a wide array of relevant subject matter specialists as well as political and legal figures to see if we could identify the basic assumptions and the major areas of concern with regard to the undercount adjustment issue.

The results of both the workshop and the conference have been submitted to your staff. And earlier this month, the Bureau con-

ducted a final internal workshop to integrate the issues which have surfaced and to reach a consensus as to the final set of critical assumptions which must underly the ultimate decision.

The findings of this workshop will be issued for general comment in the next several weeks.

I would just take a moment to expand upon the output of that conference. One of the things we felt was very important is that people should really focus on the facts of this issue before the decision is made so that, when we are ready to make the decision, there is general understanding as to the underlying assumptions that we would be using. The publication that we will issue, probably next week, is a list of assumptions that must be considered as plausible before the Census Bureau could make a "yes" decision as to whether to adjust for things other than apportionment.

And in our presentation of those assumptions, we would list the available supporting data as well as the available data that rebuts the plausibility of that assumption. We would ask, then, individuals and groups who are interested in this subject to review that assumption and to challenge, if they choose to do so, either the rebuttal of the assumption or the supporting information.

Now, as it relates to the forthcoming 1980 census data products, and I know this is a longstanding concern that you have brought forward to the Bureau, the July 1978 report of the full Senate Committee on Appropriations directed the Bureau to describe its efforts to help small communities in accessing and using census statistics.

We have submitted a detailed paper on our efforts to address these needs and I would like to highlight in this case some of the major steps we have undertaken.

In the 1970 census, statistics provided for the many small communities, that is areas of less than 2,500 population, were limited to only a few population and housing items asked of every household in the community because the full array of census questions on income, education, journey to work, et cetera were asked of only a 20-percent sample of all households.

However, to improve the statistical accuracy of data needed for smaller jurisdictions, we asked these additional questions of a 50-percent sample of households in each governmental jurisdiction of less than 2,500 population in 1980.

This change will permit us to produce expanded and more statistically reliable economic and housing data about these small communities and rural areas, but as in any instance, Mr. Chairman, there is a little good news and a little bad news. A lot of communities want to know why they had to respond to these questions at a higher rate than their brothers and sisters in the larger cities, and I hope that the utility of the information will be a satisfactory answer to them.

The Bureau has also designed a new series of reports, "Summary Characteristics for Governmental Units," which will provide basic 1980 census population and housing statistics about each general purpose local government.

Tables being developed for these reports will encompass many statistics that will be useful in applying for a variety of Federal grant programs. Current plans are to provide a copy of each juris-

dictions' report without charge to the highest elected official in that area.

In addition, we will produce a set of tabulations covering virtually all the 1980 census data items, that is, education, employment, housing, for each of the approximately 125,000 census enumeration districts that comprise rural counties and small communities.

These statistics will be available on a computer summary tape, microfiche, and paper printouts. It will provide a rich source of information for local planners to use in measuring the growth and the needs of their areas.

Two years ago, we launched a new Federal, State, local cooperative effort, the State data center program, to improve access to and the use of statistical information by State and local government planners and decisionmakers.

Under the terms of the agreement between the Bureau and the participating States, the Census Bureau provides statistical publications and computer tapes, maps, and promotional and training material, material to the States and onsite training in their use.

The States, in turn, agree to provide services as tape processing, library facilities, inquiry handling, workshops, and general assistance in data use to users throughout the respective States.

State data centers which are housed in State agencies or university centers also agree to establish State data center affiliates in key locations around the States by placing basic census publications in both the libraries and city and regional planning agencies, training their staffs in providing assistance in the use of publications and promoting the availability of these statistical resource centers in local areas.

Mr. Chairman, that concludes our prepared statement, and I will attempt to answer any questions you might have.

Senator LEAHY. Thank you.

Let me ask a question which may sound somewhat parochial. You realize, of course, the prerogative of any chairman is to occasionally ask parochial questions.

Mr. BARABBA. I understand that is permissible, Mr. Chairman.

Senator LEAHY. But let me ask you, because this would really apply to anyone of the 50 States and dozens of places, but if you were the town manager in Swanton, Vt., that has a population of 2,600, what would you do when the Census Bureau sent you its preliminary figures on the 1980 census, tells you you have 10 days to doublecheck the numbers, then prove to the Census Bureau any mistakes that you thought were made.

Now, keep in mind that town manager has no staff or assistants. He probably works almost as many hours as the dairy farmer as well. But you see the same one in upstate New York or in California or Oregon.

What do you do in a situation like that?

Mr. BARABBA. When we designed the local review program, we had to take into consideration the impact that it would have on the entire country, and one of the things that we felt was important in that program was to give sufficient early warning of the program, that it was coming.

Though the smaller communities might have a difficult time relative to staff, they have a significant advantage that they have

less to check, and a town, say, of 2,600 people might have, let us say, 1,000 housing units.

Local review is primarily designed at making sure that we did not miss any of the housing units. Now, it would be relatively simple and straightforward for such an official to do, either by using their own administrative records of that community or by what we refer to sometimes as a windshield check, that is, driving the streets and having someone count off housing units, so that they could be prepared when the Bureau brought the information in they could compare their count of housing units with the count that the Bureau provided them. And we sent the map showing where our enumeration districts were so that they would be sure that they had the same counting area as the Bureau did.

In addition, we went to virtually every State, and their municipal groups would meet, and we provided materials and answered the kinds of questions that might arise in such a program.

And we felt that the early warning and the materials that we sent in advance would provide an elected official of a small community to prepare for such an activity.

Senator LEAHY. But how many nonmetropolitan places have substantiated a disagreement with the census over the preliminary figures? It seems that that is required if I am correct—

Mr. BARABBA. That is right.

Senator LEAHY [continuing]. Before they could be adjusted.

Mr. BARABBA. So far, as we review those communities who have participated in local review, obviously because there are many more of them, there has been a much more frequent incidence of small communities identifying a concern with the interim counts, and in virtually every instance we have been able to work it out.

Indeed, in the State of Vermont, many communities have participated, and in just about each instance—

Senator LEAHY. You just happen to have Vermont there. [Laughter.]

Mr. BARABBA. We are prepared for some of those parochial interests.

Senator LEAHY. I was going to say you went alphabetically. [Laughter.]

Mr. BARABBA. In not every instance did we completely satisfy the local official, but I think in every instance we were able to respond to their inquiry and to provide a rationale of why their estimate might have been slightly off relative to the count that we provided.

And if you would like, we certainly could submit to you some of these discussions that we had with the local officials.

Senator LEAHY. It may be interesting. I was just wondering because I am trying to figure what you do in a small area as compared to a large one. The District of Columbia, for example, has a very substantial planning office, a very substantial city attorney's office, and so forth.

But looking at the small ones, for example, what is the smallest city or town to have brought suit against the Bureau over the undercount issue?

Mr. BARABBA. Chester, Pa.

Senator LEAHY. And how big is that?

Mr. BARABBA. I do not have the slightest idea.

Senator LEAHY. Is that why they brought the suit because nobody knows how big it is? [Laughter.]

Mr. BARABBA. I believe they joined the suit because Philadelphia did, and they thought they had a similar problem only it was different in magnitude.

Senator LEAHY. But you do not see any town of 1,100 or 1,200.

Mr. BARABBA. I think the main reason for that is because we have been able to sit down with those towns and to actually walk through how we did our count, because when we sit down for local review, they say, "Now, look, in this enumeration district, we show 350 housing units. You only show 320."

And we walk down and we say, "Now, let me tell you how we got the 320," and they say, "Well, let me show you how we got the 350."

If that discrepancy holds up, we, then, recanvass that entire enumeration district with our list of addresses, and whenever we find a housing unit on the street that we did not have in the list, we then go in and enumerate the people in that particular housing unit.

Also, as we do in our "followup 2" whenever there was a vacant unit listed, we go back to each of those vacant units with a different enumerator to ensure that, indeed, it is vacant.

And those "followup 2" activities reconcile a tremendous amount of the differences between the interim number and the final number. Now, in a small community, that is relatively easy to do because you could do it quickly, and that is, I think, one of the reasons why we have heard less concern from the smaller communities because they can see the actual activity is taking place.

In many of the large communities, "followup 2" has taken so long that they are still arguing about the interim numbers rather than the preliminary count.

Senator LEAHY. In the small communities, they do not give a bonus per head like New York City has? How much does it cost New York City to bring their action against the Census Bureau?

Mr. BARABBA. That is one of the fascinating things I have found. New York City criticized the Bureau for using a pro bono advertising program, but they saw fit to use the pro bono services of a law firm to conduct their law suit against the Census Bureau. So I cannot really tell you how much.

I know it has cost the Census Bureau a considerable amount of money because in the discovery, we have had to virtually go through and educate a law firm as to how you take the census so that they could then ask us the appropriate questions.

Senator LEAHY. Have you decided whether the estimated undercount in the 1980 census will be used in the distribution of Federal program dollars?

Mr. BARABBA. No. That is a decision that we plan to make following the publication of the critical assumptions relative to whether we can methodologically allocate that estimated undercount down to the local community, and when we say the local community, we mean every community.

Senator LEAHY. When do you think a decision like that will be made?

Mr. BARABBA. That decision will be made in a November-December time frame.

Senator LEAHY. Because that, obviously, is crucial and more than a passing interest.

Mr. BARABBA. Yes. That is one of the reasons we believe that everybody has to understand the limitations that we would have in attempting to methodologically perform such an adjustment. But we have made the decision that that activity could not take place for the apportionment of the House of Representatives.

We have not precluded making an adjustment decision for the allocation of programmatic funds.

Senator LEAHY. Do you think you will be able to do it by the end of the year then?

Mr. BARABBA. No. We would make the decision before the end of the year, but the ability to implement that decision could well be that the data, if you wanted to get below the national level, does not really become available from an evaluation point of view until about the fourth quarter of 1981.

Senator LEAHY. Is that dangerous making a decision now even though we do not know what kind of acceptability of the data there will be?

Mr. BARABBA. Well, we would make a condition that to implement the decision to adjust based on the certainty that we would have in the quality of that research work.

Senator LEAHY. Those 5 bells mean that I have 5 minutes to get to the floor for a vote. If we could just recess for a minute, I want to come back because I have a number of questions, and what questions I end up not being able to have time to ask, we will submit for the record.

It is funny. I start talking about numbers and things. I am not a statistician. I am a lawyer by practice, and I normally find statistics not all that exciting. I actually find this a very, very intriguing thing. I really do, and I am just constantly amazed at some of the things that come out of the census and come out of the statistical work that we have done or you have done and other Government agencies have done, especially in the rural areas. I think it is absolutely fascinating, and I apologize for leaving, but I will be back as quickly as the vote is over.

[Whereupon, a short recess was taken.]

Senator LEAHY. Thank you. I apologize for that.

Mr. BARABBA. Senator, if I could just make one comment.

Senator LEAHY. Sure.

Mr. BARABBA. The 1978 estimate of the population of Chester, Pa., is 44,173, which is about 6,500 more than Burlington, Vt., just to put it in perspective.

Senator LEAHY. I was going to say back where we come from that is a major city. That is larger than towns in Vermont.

You had mentioned earlier the report language that was placed in the appropriations bill for the Bureau in fiscal year 1979. For the record, basically, that report language that I recommended directed the Bureau to improve the accuracy of smalltown data and its usefulness to rural areas in the 1980 decennial census.

And what I would like to know, and let me just give you a series of questions and you can answer them any way you would like, but

first, what has the Bureau done to carry out the directive. Would you say these changes have helped reduce the rural undercount of past censuses and approximately by how much, and last, what else have you done or are you contemplating doing to help small communities?

Mr. BARABBA. Let me suggest that perhaps Mr. Hall, who is the person more directly responsible for the conduct of the census, respond to the question regarding what we have done to minimize the potential undercount.

Then I will address the issue relative to what we plan to do to help them in further years.

Senator LEAHY. Mr. Hall?

Mr. HALL. Thank you, Senator Leahy.

As Mr. Barabba has already mentioned the local review activity, I would like to expand on that just a bit to indicate some of the effectiveness of local review as a key way of reducing the undercount in the 1980 census.

In 1970, without the local review procedures, in fact, we did tend to miss places in rural areas because they were up lanes and behind places and so forth, really in the area of the country.

While the Census Bureau may have missed some of these areas, they frequently were not unknown to local officials. In fact, I mentioned that I was sorry that the first local review document that I had looked at was from South Dakota and not Vermont, in that it was a place with about, as I recall, 75 households, housing units, and they had listed at least 75, and there was a note at the bottom that said, "We think you missed Caleb Jones' place which is located behind so and so's barn. [Laughter.]

That was literally the first one that I saw from the census. And it is that kind of thing that does significantly reduce the undercount.

But as to some of the Bureau's other procedures, in 1970, for example, we did have, on a sample basis, a postenumeration post office check where the post office was asked to look at certain addresses that we had.

In 1980, the post office was brought up to 100 percent. I might add, also, that that so-called "keep-up" only took place in the South in 1970 because we recognized that we had a serious problem in the rural South, but in 1980, we recognize that we have a serious problem all over the country, and that was done on a 100-percent basis in rural areas.

And that, in addition, as Mr. Barabba pointed out, there was the vacancy check, and frequently in rural areas, you come upon a house in the daylight hours, and there may be no one there because both the family is out working or what-have-you, and in 1980, we did, on a 100-percent basis, recheck every housing unit that was indicated as vacant.

And so finally, we did, using census enumerators, list all of these noncentral city areas and go through and list every unit so that we could use the mailout and mailback procedure.

In those areas where, through local knowledge or through our post office checks or any other indications that there was a problem, we actually went out and listed that whole area, using some independent people and so forth to again try to reduce the misses.

I think in Mr. Barabba's testimony, he mentioned that in rural areas we found that basically the people we missed were in households that we failed to enumerate rather than the large city phenomenon where we missed some people in households, housing units that we did enumerate.

So in the census, Senator, we went to a great deal of pain to make sure that we had, to the best of our ability, identified every housing unit and enumerated each one of those housing units to, hopefully, reduce the undercount.

Finally, I would like to say that our postenumeration program is designed to intensively attempt to match the census against other sample counts so that we will know what the undercount was in rural areas, and if we get into adjustment, we would be able to do that with accuracy.

Senator LEAHY. Did you want to add to that?

Mr. BARABBA. No. I would just add that, as it relates to the utility of this information after we have gotten everybody counted, I think I did mention the State data center program which we feel is an attempt to put in place a distribution system for the data at the State and local level. We think the State data centers will contribute greatly to the further utilization of information.

There are 25 States that have established data centers. There is another 10 who are contemplating it, including the State of Vermont. And in addition to that, one of the things we find is that a lot of people say, you know, "I hear so much about the census. But how do you get involved in it? If you do not know anything about it, what is a good way to start?"

We have a series of guides that have been established for users and census data. Relative to your inquiries in the past, we have gone, I think, in the right direction, and we have developed a guide dealing with census data for a small community.

It is still in draft form, but we do plan to release it soon, and prior to its publication, we would certainly make it available to this committee for its review and further suggestions in ways in which it might be improved for a small community.

Senator LEAHY. That is a guide that sort of gives small communities, as I understand it, a chance to know how to use it for planning or Federal funding applications and so forth?

Mr. BARABBA. Yes, and we included all census data, not only the decennial census, but the economic censuses as well.

Senator LEAHY. I would be interested in seeing that when you do have a draft, and we would be glad to hold it here on a not-for-release basis if you would like, but I would find that quite interesting.

Mr. BARABBA. Surely.

Senator LEAHY. Can you guarantee really, though—can you guarantee on the record that there would be no urban or rural bias in any policy decisions made regarding inclusion of undercount estimates in Federal funding formulas?

Mr. BARABBA. One of the critical parts of the discussion that has been going on relative to the adjustment is how we can make that adjustment on the basis of the reality of the differential underenumeration that takes place in our society, not only on the basis of a

race or category of individuals, but also by the type of area in which the individual lives.

And not only do we have a methodological problem to deal with here, but we also have to have a data base that allows us to apply this sophisticated technology. In the 1980 census budget, we put in, we believe, sufficient funds to allow us to measure this difference between the urban area and the rural area and at the State level as well.

And unless that study is completed, and completed to our satisfaction, we would not use that information in any adjustment procedure, and that is part of the complexity of making this decision.

Now, several people and vested interest groups have come forward and said, "Well, get as close to the truth as you can but adjust." And the Bureau's position is that the kinds of assumptions that you would have to accept, for example, that the underenumeration rate throughout the country was the same, and therefore, use the underenumeration rate at the national level and apply it to every area in the country, we believe that that is an assumption that the American people would not stand for nor would the Congress.

And therefore, we have resisted that kind of a quick fix, and we have indicated that we will continue to do this. We are going to do any adjustment only on the basis of procedures that this institution deems to be acceptable, and we will not do that until everybody has a chance to review it.

So I cannot answer your question with the level of specificity that you would like because I do not know what procedure we would use to adjust if we did adjust, but our concern is that the bias is kept to a minimum.

Senator LEAHY. But it becomes important. I used a figure earlier that \$50 billion may be involved in Government money disbursed based on a formula using census data. But I understand now that OMB has in a draft study as much as \$150 billion may be involved in disbursements based on the census formula.

Do you care to comment on that at all? Are we talking about \$50 billion or are we talking about \$150 billion?

Mr. BARABBA. The difference is they started to include in that the State and county allocations on the basis of population as well as the Federal allocation. That is like the State sales tax and things of that nature and some educational funds as well that get distributed.

Senator LEAHY. But that is very real because virtually ever State uses the census data. I mean, no State has the ability to go out and do their own or probably even the laws to go out and do their own. I do not think. Maybe there are some States that do their own.

Mr. BARABBA. Well, there are provisions within many State laws that allow them to conduct special censuses, and in the State of California, I believe, they actually conducted their own special censuses in the intercensal period for certain allocations.

Senator LEAHY. Well, do you think that figure of \$150 billion is an accurate one, if you are counting in State and local or do you have any way of telling?

Mr. BARABBA. We are waiting for the publication of the report as well, Senator.

Senator LEAHY. I realize each time one of these is done you get better and the methodology is better. I know in 1950 and 1960, the undercounts were found greatest in the more rural regions of the Nation, the South, and the West.

In 1970, according to the Bureau, quote, "Coverage appeared to be better in urban areas than rural and better in metropolitan than nonmetropolitan areas." Can we safely assume that the undercount, then, is greater in nonmetropolitan rather than metropolitan areas?

Mr. BARABBA. I think only for past censuses, Senator, can we speak, because we have put into place a considerable amount of coverage improvement as Mr. Hall has indicated to you, and it is only when we get an opportunity to evaluate the count itself that we can make the determination for any particular census as to whether an area or a group of people were differentially underenumerated at a higher rate.

Senator LEAHY. Well, I have heard figures kicked around that each person missed by the census means a loss of \$200 Federal aid by that person's area. It obviously could have some changes in very affluent to very poor areas.

But is that right? Is that a ballpark figure? Is \$200 something accurate?

Mr. BARABBA. It is clearly a ballpark figure, but I am not too sure who plays in that ballpark. They may be talking about the entire American League.

I think it gets close to that figure when you include State and local disbursements as well as Federal. I do not think Federal would come to that, and the problem you run into is not only the amount that is allocated but the formulas for allocation.

Those pies are generally fixed, and therefore, if you get an increase in your State, it depends on whether it is a disproportionate increase relative to all other States as to whether you get more or less funds. It is in essence a zero sum game.

So I do not know how anyone could calculate the figure that any one person is worth to a State, but if you are going to get into the \$200 range, I think you have to also include the allocations made at the State and local level, including sales taxes and things of this nature.

Senator LEAHY. But have the nonmetropolitan areas lost due to the undercount in 1970?

Mr. BARABBA. Well, the numbers that have generally been discussed are based on that \$200 figure and what people do is they take the national undercount. They then make the assumption that the characteristics nationally apply to their city. They then determine how many people of the 5.3 million missed belonged in that city.

Then assuming that they could get the \$200 per person, and again, this is the argument you have about the zero-sum game, they just multiply the 200 times the number and say, "My city lost \$10 million or \$10 billion," whatever the number might be.

Senator LEAHY. But if you were to apply the same undercount to everybody, metropolitan and nonmetropolitan, then the dollar

amount does not change at all, because there is only x number of dollars in the Federal grants program.

Mr. BARABBA. That is correct, Senator.

Senator LEAHY. We have had, and I suspect that every Member of Congress gets any time a census comes up question from people on the confidentiality. What do you do to ensure the confidentiality of census responses? Does that trust ever get broken?

Mr. BARABBA. Well, the Bureau takes the position that when we collect that information, it is under an absolute promise of confidentiality, and we take every procedure that we know how to ensure that that is maintained.

To my knowledge, and this is on the basis of not only my own investigations but the investigation of many outside agencies, there has never been an authorized release of census information for purposes outside of statistical use that would identify an individual response.

Now, there have been many allegations, but never once have those allegations been upheld in a review. Now, there are times when, perhaps in an investigation, we have to swear people into review, say, a person who falsified a record, but under those circumstances, we would identify that within the law, title XIII, where the Director has some discretion in ensuring that the obligations of title XIII are fulfilled.

There has never been an authorized release outside of the purposes of title XIII.

Senator LEAHY. Has any other Federal agency such as the FBI, CIA, Justice Department, any of those, have access to any of this information, I mean other than the published data, of course?

Mr. BARABBA. No; they do not, and there is one potential exception to that that we have become aware of in this census. And that is under the criminal code, if they were trying to prove that someone falsified a census record, then under a section of our code, they might be able to access those records to prove that in fact they were falsified.

Now, we have had an incident in Colorado Springs, Colo., where this situation has arisen. We believe we have been able to work out an arrangement with the FBI where they do not have to take possession of these records and that the Bureau will do its review and if it finds falsification, will turn over the falsified records to the U.S. attorney in Denver for prosecution.

And since those falsified records were not collected under a promise of confidentiality, because they are indeed made up records, then we would not be violating that promise of confidentiality.

That is the only potential exemption that I am aware of. For purposes of the FBI in seeking out information about an individual, they have no access to these information records whatsoever. It is only in proving that something went wrong with title XIII that they would have the potential for access.

Senator LEAHY. Apparently in the past, there has been some concern that officers of the FBI may pose as a Census Bureau worker. I talked with Judge Webster and Mr. Civaletti about that and received assurances from them that whether this had happened in the past or not, they would assure that it would not happen in the future.

In fact, I suspect we will be having an amendment in the FBI charter that will stop just that.

Let me ask you one other question. Then I will just submit the rest for the record.¹

Mr. BARABBA. Senator, I think as a point of clarification, in that instance when someone did pose as a census worker, it was not during the taking of the census. It was a subsequent event.

Senator LEAHY. We had fairly substantial investigation done of that, and it came to my attention because it involved a Vermont constituent.

Mr. BARABBA. And I would only add that Judge Webster was very, very cooperative in the incidents in Colorado Springs as well.

Senator LEAHY. The census carries with it a \$100 fine against anyone willfully refusing to answer. How often has that fine been imposed and has it been imposed in a random fashion or has it been people who have almost asked to make a test case out of it?

Mr. BARABBA. Well, it is very seldom that it is imposed because by the time you get to a court, you have already counted the person [laughter] and there really is not a lot of value in carrying it forward.

Indeed, I think it has only been four or five times in which it has actually been imposed, and in the one instance, the judge felt that we were being discriminatory in picking out a person who was making *cause celebre* out of not filling it out.

We have, since that time, been advised by the Justice Department that the precedent that the judge used at that time probably no longer stands. It is really up to the U.S. attorney to determine whether they will prosecute after we identify the individual.

Normally, we get the information either directly from the individual after we have explained to them the promise of confidentiality and the importance of the information or we get it through the closeout procedure from neighbors or someone who might have the characteristics available.

Senator LEAHY. One last parochial question. When will Burlington, Vt., become a standard metropolitan statistical area?

Mr. BARABBA. Well, I guess the traditional bureaucratic answer, Senator, is that we do not have anything to do with that. That is up to the Office of Federal Statistical Policy. But based on the counts that we have seen and knowing something about the criterion, it is our judgment that on the basis of the 1980 census that that area will be considered a standard metropolitan statistical area.

That is a little good news and a little bad news for you.

Senator LEAHY. You mean Vermont will no longer be the only totally rural State in the country after that.

Mr. BARABBA. It may be, but that is not all good news for you, Senator, because that means the nonmetropolitan area may be declining in size because you just made a good chunk of it as metropolitan.

Senator LEAHY. We still keep the five Leahys there so that helps a little bit. [Laughter.]

I appreciate your being here, and I appreciate the fact that there will be substantially more material because of the questions involved, but the reason I really wanted to have this hearing, and I

¹See p. 31 for additional questions from Senator Leahy's and Mr. Barabba's responses.

just emphasize this one more time for the record, there will be enough people from the large metropolitan areas who will be coming in and who will be working with you to ensure that there not be an undercount in the metropolitan areas.

My sole concern here, and I will leave that to other committees to be concerned about the urban areas, my sole concern here is our rural or nonmetropolitan areas, that they have somebody raising the point, and I have quite frankly been pleased by the attention you have already given to it.

Thank you.

Mr. BARABBA. Senator, I can only assure that our law is very clear. We count everybody the same.

Senator LEAHY. Thank you.

We will stand in recess.

[Whereupon, at 2:18 p.m., the subcommittee adjourned, subject to call of the Chair.]

[The following was received for the record:]

STATEMENT OF HON. PATRICK J. LEAHY, A U.S. SENATOR FROM VERMONT

Over the past few weeks, alleged undercounting of major urban areas in the 1980 census has captured the headlines. We have seen angry big city mayors charging that the census findings have misrepresented their communities, but nowhere have we seen mention of the accuracy of the census in small communities and rural areas. This hearing is going to bring rural equity in the census to the attention of the Census Bureau.

Large cities are clamoring for the inclusion of undercount estimates in their area's official census reports. Why? Because over \$50 billion in federal aid is distributed according to census figures that are factored into federal program funding formulas. A draft OMB study shows that this figure may be as high as \$100 to \$150 billion when you include State and local programs which also rely upon national census figures.

All census counts fail to record many people. The 1970 census missed over 5 million Americans. The cities want their share of this missed population credited to them to increase their receipt of federal dollars, and they have even brought suit to bring this about.

The person responsible for deciding federal policy on the inclusion of the undercount in the final census reports is our witness today, Mr. Vincent P. Barabba, Director of the Bureau of the Census.

Today's hearing will hopefully convince Mr. Barabba that there should be no urban bias in this policy. If undercounts are going to pad large city census results, then the same favorable policy had better extend to all of the over 39,000 local governments in this nation, regardless of their size.

In the censuses of 1950, 1960, and 1970, the undercounts were highest for nonmetropolitan or rural areas. I believe we can expect this to reoccur in 1980 and I am hopeful this fact will be recognized by any Census Bureau policy on the undercount.

John Kenneth Galbraith once said, "... societies never really become effectively concerned with social problems until they learn to measure them." And yet, while statistics have consistently shown that rural areas bear a disproportionate burden of housing, health, transportation and other social needs, our federal government has displayed a glaring urban bias in where it sends money to alleviate these social ills. The census undercount places rural areas in a double bind because those persons most often missed tend to be the poor and the minorities, groups most in need of and often targeted to receive federal assistance.

I have been concerned with this issue since coming to the Senate. Even though the Bureau of the Census has complied with my appropriations report language to reduce the rural undercount by improving its data gathering techniques in those areas, I am concerned that the 1980 census adequately measure the reverse migration in America—a trend of recent years wherein America's small towns are growing faster than the largest cities. Without an accurate census confirmation of this reversal, the government and Congress will be unable to respond in an equitable manner.

I want to thank Mr. Barabba for agreeing to discuss these issues with us on such short notice. Under Mr. Barabba, the Bureau of the Census has done admirable and

professional work on a most difficult task. His response to the concerns of small communities and this Subcommittee has always been prompt and forthright. We greatly appreciate that and are pleased to have him with us today.

[The following information was submitted by Mr. Barabba. See p. 3 for the oral testimony of Mr. Barabba.]

PLANS FOR COVERAGE IMPROVEMENT IN THE 1980 CENSUS ¹

I. INTRODUCTION

Despite best efforts, estimates indicate that a sizeable number of people are missed during the enumeration of the decennial census. Though the level of undercoverage is significant, it might not be of as much concern if coverage losses occurred randomly and were distributed equally by geographic area. Evaluations of the undercoverage, however, indicate that it is disproportionate by population group and geographic area. Evaluations of the undercoverage, however, indicate that it is disproportionate by population group and geographic area. Some data from the 1970 Decennial Census illustrate this point.

TABLE 1.—ESTIMATES OF PERCENT OF NET UNDERCOUNT OF THE POPULATION BY SEX, RACE AND SELECTED BROAD AGE GROUPS: 1970 CENSUS

Age	White		Black	
	Male	Female	Male	Female
All ages.....	2.5	1.4	9.9	5.5
20 to 24 years.....	2.5	1.1	12.1	5.2
25 to 34 years.....	4.3	2.4	18.5	6.7
35 to 44 years.....	3.6	0.5	17.7	4.0

TABLE 2.—ESTIMATES OF PERCENT OF UNDERCOUNT OF HOUSING UNITS BY GEOGRAPHIC AREA: 1970 CENSUS

Geographic area	Percent of undercount housing units ¹	
	All units	Occupied units
United States.....	2.5	1.7
Northeast Region.....	2.6	1.8
North Central Region.....	1.5	.8
South Region.....	3.5	2.6
West Region.....	1.9	1.6
Urban.....	1.7	1.3
Rural.....	4.8	3.1

¹ These rates reflect undercoverage from the field collection operation. Improvements from post census corrections are not reflected in these rates.

This coverage differential is important for many reasons. The primary purpose of the census is to provide population counts for reapportionment in the House of Representatives. Differential coverage errors could lead to an inequitable determination of representatives by State. Further, the decennial census is a prime source of small area data; thus, coverage differentials can be quite meaningful when considering data for small geographic areas. Finally, there is increasing use of census data to allocate Federal funds to local governments. Differential coverage could have an important effect on such allocations.

Hence, the goal of coverage improvement in the 1980 Census is two pronged—to improve the census taking process in order to attain a relatively low overall undercoverage rate and to take steps to reduce the coverage differential.

There are two main approaches the Census Bureau is using to attempt to achieve these goals. The first is a number of special publicity efforts to make people more aware of the census; to explain the uses of census data in order to encourage

¹ Peter Bounpane, Bureau of the Census, Clifton Jordan, Bureau of the Census.

response; and to attempt to make people aware of the confidential nature of their response. This program has special emphasis for minority groups. These attempts are extremely important since the 1980 Census will be largely self-reporting. Section II of this paper describes the Census Bureau's efforts in this area.

The second approach is to try to develop and improve the census taking procedures to try to reduce the possibility of people being missed. The census taking process is complex and must be completed in a short period of time. This complexity contributes to the potential to miss people. There have been a number of suggestions for procedural methods to improve coverage in the census. Many of these suggestions have been tried in conjunction with testing activities in preparation for the 1980 Census. Section III of this paper describes the Census Bureau's efforts in this area.

The methods described in this paper are attempts at coverage improvement and not coverage evaluation. Many of the procedural techniques are not perfect. To try to perform some of the improvements on a complete basis may make the process so cumbersome that any potential gain is lost. Further, many of the coverage improvement procedures are redundant; that is, they are aimed at picking up the same potential missed persons. Our experience indicates that such redundancy is necessary since any particular effort may not be designed for complete coverage improvement.

It's important to realize that the planning process for the census is still going on. It is possible that changes to the procedures described here will be made and that new procedures may be added.

References to coverage from previous censuses are cited from the published Evaluation and Research Program series, PHC(E). Experiences from pre-tests prior to the 1980 Census are cited from a results memorandum series, issued within the Census Bureau.

II. SPECIAL PUBLICITY EFFORTS

Many efforts will be made to encourage public support of the census. Most of these efforts have special emphasis for racial and ethnic populations which for simplicity are referred to as minority populations. The populations of concern are the Black population, the Spanish origin population, American Indians (native Americans), Aleuts and Eskimos, and Asian Americans and Pacific peoples. There are two main efforts in this area—the Minority Statistics Programs and the Special Publicity Efforts.

A. Minority statistics program.—The main purpose of the Minority Statistics Program is to attempt to raise the level of the coverage of minority populations to that of other segments of the population. The specific objectives of the program are: To enlighten members of minority populations concerning the usefulness of statistics provided by the Census Bureau, to assist them in the use of such statistics, and to obtain their recommendations and support towards improving coverage and the quality of data in the 1980 Census. The Minority Statistics Programs has three main components: 1. Advisory Committee Program; 2. National Services Program; 3. Community Services Program.

Advisory committee program.—This program area provides organized channels of communications between members of the minority populations and the Bureau of the Census on the problems of the 1980 Census as they relate to the specific minority populations. Three committees have been established to date: the Census Advisory Committee on the Black Population for the 1980 Census; the Census Advisory Committee on the Spanish Origin Population for the 1980 Census; and the Census Advisory Committee on the Asian and Pacific Americans Population for the 1980 Census. Members are drawn from a broad spectrum of community leaders, scholars, elected officials, marketing and media experts, and clergy. Advisory conferences with Native Americans are being conducted through visits of Census Bureau staff with various tribal groups.

National services program.—This program area is aimed at developing channels of communications with members of the minority population through contacts with minority organizations that are national in scope.

Bureau representatives attend, and to the extent possible, participate in national conventions and meetings of selected minority national organizations. Participation may be as speakers at general meetings, session or workshop panel members, or as resource persons. The types of organizations covered include civil rights, economic and welfare rights, religious, media professional, and business groups.

Community services program.—This program area is aimed at developing channels of communications with minority groups and individuals at regional, State, and local levels.

Community Services Representatives contact local individuals and groups that have, or can exert, influence upon persons who, under ordinary circumstances,

might not be enumerated in the census. The program seeks to obtain the trust and active cooperation of such groups and individuals, and to convince them of the confidentiality of information furnished to the census.

Community Services Representatives actively involve organizations and individuals in local communities in planning for the census. At present, there are about 30 community services representatives working out of the Bureau's 12 regional offices. This number will grow rapidly in the months ahead, and it is anticipated that by 1980 about 200 will be serving in this capacity.

B. *Publicity.*—As in past censuses, the Census Bureau will mount a massive publicity campaign to inform everyone of the 1980 Census and its importance. In addition to the standard publicity efforts directed at the mass media, a series of special publicity activities directed at the minority and ethnic media are being developed. Some of these efforts (in no special order) follow: Hire minority Public Information personnel to implement the program; develop TV and radio spots specifically developed to reach minority and ethnic audiences; develop printed literature of all types for distribution in minority and ethnic communities; develop programs of working with minority disc jockeys to help to promote the census; obtain testimonials from prominent leaders in minority/ethnic communities; arrange for minority advertising agencies to play a vital role in any Advertising Council-backed national campaign for the census; and develop special public service announcements on the Census Bureau's hiring of minority/ethnic persons as temporary census employees.

III. COVERAGE IMPROVEMENT PROCEDURES

A. *General.*—There are many ways that people can be missed in the census. An entire living unit (and all its occupants) can be missed, or the living unit can be enumerated but some of its occupants missed either through lack of understanding about who should be enumerated or through unwillingness to be enumerated. It is hoped that the special publicity efforts will reduce the amount of unwillingness to be enumerated. The coverage improvement procedures are generally aimed at the other two problems.

The basic data collection procedures to be used for the 1980 Census are similar to those used in 1970. About 90 percent of the population (as compared to 60 percent in 1970) will be enumerated by the mail-out/mail-back system. The balance of the population will be enumerated by the traditional door-to-door visit by an enumerator, commonly referred to as the Conventional or Non-Mail method. In mail census areas, the initial mailing list is produced by one of two methods. In large urban area, mailing addresses are purchased from commercial mailing firms. These addresses are on computer tape and are usually referred to collectively as the Tape Address Register or TAR. In the balance of the mail area, census enumerators prepare the address list by canvassing the area and recording each mailing address. This operation is called the Praelist. The increase in the mail census and expanded use of commercial mailing lists as the first step in creating a list of addresses may in themselves lead to better coverage. Table 3 which follows shows housing unit missed rates in the 1970 Census by type of census procedure.

TABLE 3.—ESTIMATES OF PERCENT OF UNDERCOUNT OF HOUSING UNITS BY TYPE OF COLLECTION PROCEDURE: 1970 CENSUS

Census procedure	Estimated percent miss rate of all housing units—1970 census ¹	Estimated percent miss rates of occupied housing units—1970 census ¹	Approximate percent of all housing units covered by procedure—1970	Estimate of percent of housing units covered by procedure—1980
Total United States	2.5	1.7	100	100
All mail	1.6	1.2	60	90
TAR	1.2	.9	48	60
Praelist	3.5	2.6	12	30
Conventional (nonmail)	3.9	2.6	40	10

¹ Ibid.

B. *Coverage improvement procedures to improve the mailing list in TAR areas.*—It is not unexpected that the housing unit undercoverage rate in TAR areas is relatively low. The fact that the mailing list is prepared from a combination of three

different sources (a commercial vendor, the post office, and census staff) accounts for the completeness of the list and that list is then used as a control during enumeration. Despite the expected low housing unit undercoverage rate in TAR areas, several coverage improvement procedures were considered. One of these, the Precanvass, is an expansion of a program carried out in 1970. Another, use of independent lists of housing units, is a new activity.

1. Precanvass Operation—Even with the use of a purchased list of mailing addresses updated by the post office on several occasions, it has been demonstrated that having a precavass operation conducted by census personnel can be an efficient coverage improvement device. In the precavass operation, a census enumerator, prior to the mail-out of questionnaires, systematically canvasses an assignment area identifying all housing units and adding to the list any units not already listed. In 1970, selected areas in 17 metropolitan areas were precavassed. The 1970 precavass operation added about 2.3 percent of the housing units in the areas that were precavassed. It is unknown how much of that 2.3 percent would have been added by other census procedures if there had not been a precavass.

In order to determine how extensively to apply the precavass in 1980, the entire TAR area in each of the three major pretests was precavassed. Further, the operation was controlled in order to measure the overlap of precavass adds with other sources of census adds.

In the Travis County pretest, units added solely by the precavass operation represented 1.5 percent of the housing units in the TAR area. The second and third post office checks added units representing one percent of the housing units in the TAR area which were not picked up by the precavass. Hence, though the precavass made a significant contribution to the coverage of housing units, it appears the precavass operation alone is not sufficient.

Net precavass adds in Travis were examined by tract. No clear cut patterns emerged. The add rate in areas of concentrated residence of Black and Spanish persons (1.3 percent) did not differ from the add rate for the entire TAR (1.5 percent). There was a significant concentration of precavass adds in some tracts at the boarder of the TAR area.

In the Camden pretest, it is estimated that net adds from the precavass operation represented about 2.3 percent of all housing units in the city. The net precavass adds in Camden were examined by tract and are shown in Table 4.

TABLE 4.—ESTIMATED NET PRECAVASS ADD RATE IN CAMDEN BY TYPE OF TRACT

Type of tract by difficulty of enumeration	Approximate number of housing units	Estimated percent of net precavass add rate
Very difficult	15,700	2.9
Difficult	10,800	1.7
Fringe	3,500	1.3
Regular	5,300	2.4
Camden City	35,300	2.3

As in Travis County, no clear cut pattern emerged. A rather surprising finding was the relatively high add rate in the "regular" tracts which were not considered to have the kind of arrangement of housing units that might lead to undercoverage.

Overall, the precavass appears to be a very effective procedure for improving coverage. It appears it is difficult to predict where commercial mailing lists (even after a post office update) are likely to be deficient. Pretest experience indicates that the precavass operation is successful at adding housing units in areas where the initial list is not very complete. Hence, the entire TAR area is planned to be precavassed in 1980.

2. Independent Lists of Housing Units—Another suggestion to improve the coverage of housing units in the census is to update census rolls with lists of housing units prepared outside the 1980 Census environment. Such lists could be matched to the census list, mismatches would be investigated, and any missing units identified could be added to the census. Two such lists were tried in conjunction with pretests—a list of Public Housing Units and the list of housing units from the 1970 Census.

The Public Housing list was first tried in the Oakland pretest. A total of 5,240 Public Housing Units were matched to the census lists. This match and resulting reconciliation of nonmatches yielded 77 units and 216 people missed by the census.

Hence, this operation produced less than a 0.1 percent increase in the housing unit inventory and total population.

In the Camden pretest the match of the 1970 address list to the Camden rolls yielded 133 addresses containing 154 units and 211 people that were missed in the Camden pretest census. These 154 units represent 0.4 percent of the housing unit inventory and the 211 people are 0.2 percent of the total population. Preliminary results from Oakland indicate similar yields.

Since the use of independent lists to improve the mailing list in the TAR areas gives a relatively low coverage improvement for a considerable amount of effort, the status of this operation in the 1980 Census is uncertain. It is doubtful whether either of these checks will be used on a broad basis.

C. Improving the mailing list in prelist areas.—The mail-out/mail-back census procedure will be extended to cover 90 percent of the population in 1980. Where commercial lists are not available, census personnel will canvass the land areas and list each residence and its mailing address (the prelist operation).

Such a prelist operation is planned for about 25 to 30 million addresses in 1980. In 1970, the housing unit missed rate in prelist areas was larger than the rate in areas where a commercial list was available (see Table 3).

Four areas of potential improvement were considered to reduce this expected covered differential: 1. Improve the listing procedures; 2. Strengthen the quality control of the listing operation; 3. Consider listing early enough so that an additional post office check could be performed; and 4. Introduction of special coverage improvement procedures.

In the 1970 Census, the listing procedure used is referred to as "Inquire when necessary". Listers listed by observation and inquired of a respondent only when a mailing address was not available by observation. In addition, the path of travel used by a lister to canvass was not specified or controlled.

A special test (the Rural Listing Test) was conducted to compare three listing procedures. Procedure 1 had listers inquire when necessary and was essentially the 1970 listing procedure. Procedure 2 had listers inquire at every structure and arrange for limited callbacks if no one was at home. Procedure 3 had listers inquire at every structure with allowance for "unlimited" callbacks to obtain information if no one was at home. All three procedures specified that canvassing be done with a structured path of travel, that is, listers were instructed to canvass blocks in a clockwise direction listing one side of the road at a time and completing one block before continuing on to the next. The listing from each of the three procedures tested was corrected by the post office.

Both the second and third listing procedures achieved better coverage (more net listings of housing units) than the first procedure. The second procedure had 2.1 percent more net listings than the list produced by procedure 1. The third procedure had 2.4 percent more net listings than the list produced by procedure 1.

There was, however, a considerable cost difference between the second and third listing procedure. The increased cost (over the first procedure) per net listing was 7.5 percent for the second procedure and 26.4 percent for the third. Procedure 2 (inquire at every residence with limited callbacks) and structured path of travel will be the method used to prelist in 1980.

The quality control on the prelist is accomplished through an advance listing of 24 units. When the assignment is completed, the advance listings are compared to the listings turned in by the prelisters. If two or more of the units on the advance list are not present, the entire assignment is checked by another person.

For the 1970 Census, prelisting was usually done just prior to the census with some areas listed in the Fall of 1969 because of weather conditions. Hence, the prelisted addresses received only two post office reviews. There are a considerable number of administrative advantages to earlier prelisting. The primary disadvantage of early prelisting is that the list may be less accurate or complete by Census Day, since the post office updating may not be able to reflect all changes. To get a better understanding on these problems, two tests were run—an early/late listing test as part of the Travis pretest and a relisting of the area covered in the Rural Relisting Test (Rural Relist Test).

The results from the Rural Relist Test indicate that there is a risk of a coverage loss on the order of 1 to 4 percent of the housing unit inventory from listing early. The post office is not able to add all of the units that come into existence after the list is compiled. The risk of coverage loss was lower in the more urban portion of the test area. These data are difficult to generalize for two reasons. First, these counties were purposely selected to represent the most difficult type of prelist areas. Second, the time between listings in the test was about double that expected if early listing is used in the 1980 Census.

One half of the prelist portion of Travis County was prelisted early and received three post office checks. The other half was prelisted later (similar to the 1970 time schedule) and received only two post office checks. For occupied housing units, the late listing procedure resulted in about one percentage point more units than the early listing procedure. In more rural parts of the prelist area, this difference was about two percentage points. Because of the potential coverage loss from early prelisting, it is anticipated that tighter control on the prelist operation will be necessary to reduce the extent of undercoverage of housing units.

Other special coverage improvement ideas are also under consideration; for example, a precavass or an additional post office check similar to the PEPOC check in the conventional areas. (See Section III.H.2. for a description of PEPOC.) Current thinking is that the cost of a precavass in prelist areas would be too great a price to pay for a potentially limited gain.

D. *Coverage improvement through questionnaire edit.*—All census questionnaires are reviewed or edited to check that a sufficient number of questions are properly answered. In addition, a small set of questions are asked in an attempt to further reduce coverage loss. The review of these questions is called coverage edit and is especially important for mail-returned questionnaires.

1. Question H-4 "How many living quarters are there in the building in which you live?"—For addresses with 10 or fewer units (as determined by the mail-out count), the response on the mail-returned questionnaire is compared to the mail-out count. If the response indicates more living quarters than questionnaires mailed, an enumerator visits the building to check whether every housing unit in the building has been enumerated.

2. Questions to Verify the Completeness of the Roster—With the increase in self-reporting, there is concern that the respondent may not include all appropriate persons because of misunderstanding about who should be included. Three coverage questions similar to a set of questions used in 1970 will be incorporated into the regular flow of questions rather than listed in a separate location on the questionnaire as they were in 1970. The coverage gains from these questions are relatively trivial (on the order of 0.01 percent). They are, however, planned for inclusion in 1980.

A new coverage question has been added to the 1980 Census questionnaire. This question is located on the front cover and asks the respondent to list the names of all persons living in the household on Census Day and/or those who were staying or visiting there and had no other home. There is space for a larger number of persons than inside the questionnaire where data are to be recorded. The comparison and followup when there are more persons listed in the coverage question than the number for whom data are recorded inside the questionnaire is another attempt to identify those instances in which a person may have been omitted either through lack of understanding or lack of space since the inside of the questionnaire has room for only 7 people.

E. *Coverage improvement for transient populations.*—It is reasonable to assume people who do not have a permanent residence or are in transit near Census Day have a high chance of being missed. Three coverage techniques are planned for the 1980 Census to try to reduce undercoverage among people away from a permanent residence around Census Day.

1. *Movers.*—Most households that move file change of address orders with the post office. Checking these change of address orders seemed a reasonable way to verify the coverage of movers in the census. Pretests prior to the 1970 Census show that such a record check produced a population increase of about 0.2 percent. The 1970 operation, however, produced only a 0.06 percent increase.

There were many reasons suggested for the poor result, a major one being that the operation was difficult and occurred late in the census process, and hence, was often not completed. To alleviate part of the suspected problem, it was suggested to use the mail in followup of movers.

Two approaches using mail were tried in the Travis pretest. These approaches yielded only a 0.01 percent increase to the count while there is evidence to indicate the yield should have been substantially higher.

Since there does seem to be potential for picking up missed people by checking change of address orders, this operation will be kept for the 1980 Census. It will, however, be done only for households which move during the period one month prior to the census. The checking of such movers has been moved up in the census process.

There will be no check of change of address orders filed in the month after Census Day. Another census process, a recheck of vacant units, will be used to pick up such potential misses (see III.G.1).

2. *Whole Household Usual Home Elsewhere (WHUHE)*.—Another group of the transient population is those people away from their usual home or residence on Census Day. In 1970, it was assumed whole families away from home on Census Day would be enumerated at their usual residence through the process of an enumerator talking to a neighbor.

Recognizing the potential coverage loss of such a system, the procedure is being altered for 1980. Whole families away from their usual home will be asked to give their usual address and to complete a census questionnaire. A copy of this questionnaire will be sent to the district office containing the usual residence. The enumeration status of the family will be checked and the family will be added to the count if the family was not already enumerated at its usual residence.

3. *Casual Count*.—Some portion of the population may not have any usual residence in the traditional sense. In past censuses, and for 1980, a special enumeration procedure (called M-night) has been used to enumerate persons who have no real home. Very close to Census Day, enumerators visit places housing such portions of the population (for example: mission houses, railroad stations, and all night movies) and enumerate those persons with no usual residence. A supplemental program developed for 1980 is the Casual Count Operation.

About six weeks after Census Day enumerators visit places where the transient populations might congregate (for example: employment offices, pool halls and street corners). The difference between this operation and M-night is the type of places visited and the time of enumeration (day as well as evening and over a longer period of time).

During the casual count, enumerators fill a questionnaire for those persons who indicate they were not enumerated. The casual count has been used in each of the major census pretests. The results are shown in the following table:

TABLE 5.—RESULTS OF THE CASUAL COUNT IN PRETESTS PRIOR TO THE 1980 CENSUS

Pretest	Number of persons added through the casual count	Percent of total population
Travis.....	367	0.1
Camden.....	¹ 129-659	.14-.73
Oakland.....	1,132	.35

¹ Casual count materials for Camden were lost in transit. Numbers listed indicate a minimum and maximum gain from the program.

There is a potential for overenumeration from this operation. It is felt, however, that the gains offset the presumed small overenumeration, so that for 1980, the casual count operation is planned for district offices in the major urban areas.

F. *The nonhousehold sources program (a record check)*

1. *Background*.—In previous censuses, record checks have been used to verify the enumeration of persons though not generally for coverage improvement. A major exception occurred in 1970 with the use of post office change of address notices to check on the enumeration of persons who moved during the census period. A number of additional sources have been suggested to improve coverage through record checking including drivers license files, Social Security files, and files generated by local community interest groups. Record checking using such lists to improve coverage has been tried in several census test situations. We refer to the new aspects of this operation as the Nonhousehold Sources Program, since the lists are of individuals and not of households or addresses.

To implement the program, a list of names and addresses prepared independently of the census is obtained. When the first phase of enumeration in the census is completed, the names and addresses from the list are matched to census questionnaires. Unmatched names are potential misses in the census enumeration. An attempt is made to contact each household containing an unmatched person, either by telephone or personal visit. During this interview an attempt is made to determine the enumeration status of the unmatched person. Those determined to be missed are added to the census.

The steps in this process are difficult and expensive. One problem is obtaining and processing the independent lists. The matching process is cumbersome and must be done in a short time span. Interviews of nonmatched cases are often difficult. Hence, the Nonhousehold Sources Program was not designed as a general coverage improvement program. Rather, it is aimed at reducing the coverage differential.

2. Pretest Experience—The first major implementation of the Nonhousehold Sources Program was in conjunction with a Special Census of Pima County, Arizona. Approximately 2,700 names and addresses of individuals believed to be a Spanish origin were obtained from four different local sources within Pima County. An attempt was made to match each individual to the special census rolls, and all nonmatches were followed up. This checking yielded 160 persons, or about 6 percent of the individuals on the list, who were not enumerated on Census Day. In addition, 231 persons not on the list and not enumerated were located during the followup of those persons on the list. The program yielded an increase of about one-half of one percent to the Spanish population as enumerated in the special census.

The Nonhousehold Sources Program has been an integral part of each major census pretest prior to 1980. There were two sources for the independent lists used in Travis County. Various community organizations submitted lists with a total of about 660 names, mostly persons of Spanish heritage. Lists of about 2,300 drivers licenses for males, aged 17-35, in two Zip code areas were also obtained. These Zip code areas were populated heavily by Black and Spanish persons.

For the Travis pretest the final steps of the record check of these lists took place after the census. Had the operation been completed as part of the Travis Census, it would have added about 308 people to the census. The two hundred and seven of these that were names on the list represented about 7 percent of the total number of names searched. The remaining 101 cases were persons not on the list but located during the followup of those persons on the list.

The count of the total Black and Spanish male population, aged 17-35, in the tracts covered by the program is 4,493: 2,253 Black and 2,240 Spanish. The potential increase from the Nonhousehold Sources Program was 163: 75 Black and 88 Spanish. The percentage increase is 3.6 percent—3.3 percent for the Black population and 3.9 percent for the Spanish population.

The Nonhousehold Sources Program in Camden was an extension of that in Travis. Once again, the drivers license list was the major source of names; however, both sexes and all age groups across the entire city were represented. In order to keep the work load manageable, drivers license cases were sampled. In addition, a small list of names was obtained from two community organizations. About 5,700 names from drivers licenses and about 300 names from local lists were processed.

Matching approximately 6,000 names and addresses to the census yielded about 520 persons who were missed by the census. About 370 of these persons were on the list and the remaining 150 were located during the followup of those persons on the list. Unlike procedures for Travis County, persons discovered by the Nonhousehold Sources Program were added to the Camden Census counts. Only 405 of the 520 persons were actually added. The error of not adding the remaining 115, as well as adding 30 persons erroneously, appears to be the result of confusion in the instructions and timing of the operation. The 405 missed persons (not yet weighted to account for differential sampling) represent approximately 0.5 percent of the total population of Camden.

Weighting the data to account for the differential sampling yields an estimate of 1,734 people that could have been added if it had been possible to process all drivers license cases in Camden. These 1,734 people represent about 2 percent of the population of Camden.

The estimated potential coverage improvement rates for some specific demographic groups are shown in the following table.

TABLE 6.—POTENTIAL COVERAGE IMPROVEMENT RATES FROM THE NONHOUSEHOLD SOURCES
CHECK: CAMDEN PRETEST

	[In percent]	
	Black	Spanish
Males 17 to 24 and 45 plus	3.4	7.5
Males 25 to 44.....	2.8	6.2

Like Travis, the Camden data indicate the program can be effective in reducing the coverage differential. The problem is to define, on the independent list, those names that are in the desired demographic groups.

The coverage improvement yield from the basic Nonhousehold Sources Program looks encouraging. It appears the program can be effective at reducing the coverage

differential. Hence, despite the difficulties and cost, the program is planned on a large scale in the 1980 Census.

There are, however, still a number of issues to be faced. For example, which lists could be handled in a major national operation; which lists produce enough coverage yield to make them worthwhile; how much evidence is required to conclude a person was not enumerated anywhere and should be added; what is the situation with respect to "invasion of privacy"?

G. Other coverage improvement procedures

1. Controlling Occupancy Misclassifications

a. Background—During the 1970 Census, the misclassification of occupied units as vacant was determined to be a serious coverage problem. A large-scale post census sample program, the National Vacancy Check, was established to correct the problem. Approximately one million people were added to the count by this check.

Since the 1970 Census, several suggestions have been made to try to reduce the amount of misclassification and also to try to correct for residual misclassification error prior to the closing of the district office. These suggestions include an independent recheck of the occupancy status of units reported as vacant, special procedures for the enumerator to minimize the latitude in reporting a unit as vacant, telephone quality control on vacant classifications, and using post office information on occupancy status to validate the enumerators' reports, with revisits to check on discrepancies.

b. Pretest Experience—Variations on all of these suggestions were tested or simulated in the Travis County pretest. One half of the enumerators interviewed according to the 1970 procedures. The remaining half were asked to fill a supplemental form for each vacant unit and any unit deleted as nonexistent. After the census, all vacant units and all units deleted by the enumerator were independently rechecked. Finally, after the census post office classifications of units were matched to those reported by the enumerator. The following are the basic results of the Travis testing.

(1) About 7.5 percent of the units classified as vacant or nonexistent were actually occupied. Since there were no corrections in the Travis Census, there was a coverage loss of about 2,400 people or around 0.67 percent of the total population.

(2) The misclassification error rate for the enumerators using the special form was almost exactly the same as the error rate for those enumerators using the 1970 procedure.

(3) Using the telephone number from the special form to control the quality of the enumerator's work would have reduced the complete reinterview of vacant and nonexistent units by about 38 percent while correcting for about 71 percent of the error.

(4) Using the post office classification to validate an enumerator's classification would have reduced the complete reinterview of vacant and nonexistent units by about one-third while correcting for about 79 percent of the error.

(5) Checking on the status of the units deleted by the enumerator (a new procedure over 1970) was useful. About 6 to 8 percent of such deleted units were in fact occupied.

Based on the Travis experience, the supplemental form was not included as part of the Camden Census. After the census, all vacant units and all units deleted by the enumerator were independently rechecked. Any of these units found to have been occupied since Census Day were interviewed and such people were included in the Camden Census counts. In the processing center, post office classifications of units were matched to those reported by the enumerator.

The basic results for Camden are as follows:

(1) About 12.7 percent of the units classified as vacant or nonexistent were actually occupied. If there were no corrections, there would have been a coverage loss of about 1,600 people or about 1.7 percent of the total population.

(2) Using the post office classification to validate an enumerator's classification would have reduced the complete reinterview of vacant and deleted units by about one-half while correcting for about 80 percent of the error.

The procedure used in the Oakland pretest had two major changes from the Camden system. First, since the comparison of the post office classification to that of the enumerator was previously done as a post-census operation, it was performed in the Oakland Census as part of the census operation in order to get the experience. Preliminary indications are that there was only about a 14 percent match rate. After the Oakland Census, an independent reinterview of cases in which the post office and enumerator agreed was performed in order to measure residual error. Second, because it was operationally easier, the enumerators in Oakland did the recheck at the same time they did other types of tasks, hence, they knew the

original status of units, unlike their counterparts in Travis and Camden. The residual error in this procedure was measured by a post-census recheck.

In Oakland, about 6 percent of these units classified as vacant or nonexistent were actually occupied. If these had not been reclassified, there would have been a coverage loss of about 1,625 people or about 0.49 percent of the population.

Final results from the evaluation of the residual error after correction according to the Oakland procedure are not available as yet. Preliminary indications are that the residual error is quite high. Because of this, current plans are to make the recheck of vacant and nonexistent units a separate operation.

c. 1980 Plans—Misclassification error is a major source of potential undercoverage. Based on current data, there is no clear cut alternative to a complete independent reinterview to correct for the error.

2. Local Review—An important change planned for the 1980 Census is to prepare for review by local officials, preliminary counts at various geographic levels, including block where applicable, while the district office is still open. Two sets of counts are prepared. Prior to the census, counts of addresses on the mailing list are supplied. At the completion of enumeration, preliminary population and housing counts are given to the local officials. Correction for errors documented by review by local officials can then be made before shipping the census documents and closing the district office. This review system has been used with each major pretest and some special censuses.

3. "Were You Counted?" Campaign—In 1970, toward the end of the enumeration period, many newspapers published "Were You Counted?" forms. The reader was urged to fill in the form and return it for persons who felt they were missed in the census. Following completion of the census, a supply of "Were You Counted?" forms was sent to mayors of smaller cities. The mayor was invited to supply these forms to persons who doubted that they had been enumerated.

About 73,000 "Were You Counted?" forms containing about 220,000 people were received. A match to enumeration records indicated only about 25,000 of these people should have been added to the census.

The "Were You Counted?" operation is planned to be repeated in the 1980 Census. Plans are still being made on the appropriate method of distributing the forms. As in 1970, the enumeration status will be checked prior to adding persons since there is a tendency for respondents to report not being counted when they were, in fact, enumerated.

H. Coverage improvement for conventional areas.—Most of the coverage improvement procedures mentioned so far relate to the mail-out/mail-back census procedure. About 10 percent of the population in 1980 will be enumerated by the conventional or non-mail method. In such parts of the country, an enumerator is responsible for a particular land area. The enumerator lists and enumerates (by personal interview) the residents in one operation.

Experience from 1970 indicates that housing unit undercoverage in conventional areas is more severe than in the rest of the country.

TABLE 7.—ESTIMATED MISSED RATE FOR HOUSING UNITS: ¹ 1970 CENSUS

[In percent]

Type of census	Total units	Occupied units	Vacant units
United States.....	2.5	1.7	12.1
Mail census.....	1.6	1.2	8.8
Conventional census.....	3.9	2.6	14.8

¹ These rates reflect undercoverage from the field collection operation. Improvements from post census corrections are not reflected in these rates.

This high proportion of missed units in conventional areas is primarily due to two factors—the nature of the land area covered by the conventional procedure and the procedure itself. The conventional census is generally restricted to more rural areas. In such areas, housing units may not be on main roads so that there is more of a chance of missing a unit during the canvass. Since the listing and enumerating is done at one time by one person, the gains from independent preparation of the list and some of the controls of the mail-out/mail-back procedure are lost.

Besides applying the appropriate coverage procedures mentioned above (for example, the vacancy recheck), there are two other approaches to try to alleviate this potential coverage loss—changes in field procedures and the use of the post office.

1. Changes in Field Procedures—The 1980 conventional procedures will be basically similar to those used in 1970. Two changes are planned to be implemented to help improve coverage. First, the enumerators will be instructed to canvass their ED's in a more systematic nature in the 1980 Census. It's hoped that a more methodical approach to canvassing will reduce the potential for missing a unit.

Second, a new quality control of the canvassing will be instituted. Prior to the census, a prelist of 24 units (four strings of six units) will be prepared for each enumerator assignment. When an enumerator completes an assignment, these 24 prelisted units will be checked against the enumerators work. If two or more of these 24 control units are not found in the enumerator's listing, the assignment will be recanvassed.

2. Post Enumeration Post Office Check—In addition to added field controls, it is planned to use the post office to help improve coverage in conventional areas. In 1970, the post office was used to help improve coverage in the conventional areas of 16 southern States. After the census enumeration was complete, a card was prepared for each enumerated address. These cards were sent to the post office for checking. Mail carriers were asked to supply to the Census Bureau addresses for which no card was received. This post office operation was analogous to the casing checks done in mail areas except that it was done after enumeration rather than before. Addresses reported as missed were checked and interviewed as appropriate. In some cases, the operation was performed on a sample basis.

Approximately 484,000 persons and 174,000 housing units were added to the census by the post enumeration post office check. The 484,000 persons represented an increase of 1.3 percent in the population count for the conventional areas of the South. The 174,000 housing units represented a 1.4 percent increase. However, an estimated three-fourths of the 500,000 addresses reported as missed by the post office had actually been enumerated.

Despite the difficulties of implementing the check, it considerably improved coverage. Hence, the check is planned for the 1980 Census with two major changes. First, the check will be done in all conventional areas. Second, the checking and enumeration of missed addresses will be done prior to the closing of the district office.

IV. SUMMARY

Many operations, some of them quite costly, are planned for the 1980 Census in an attempt to improve upon the undercoverage experienced in the most recent censuses. To make these procedures operational within the census-taking environment, compromises have been made so that no single coverage improvement procedure is expected to be perfect. To partially compensate for this situation, many of the coverage improvement procedures overlap (are aimed at the same potentially missed persons).

The coverage improvement procedures, even if they fully achieve their expected gain, are probably not enough if the population is not motivated to cooperate with the census. Hence, a great deal of effort has also gone into the Minority Statistics Program and special publicity efforts. It is hoped that the combination of these efforts with the procedural improvements will produce better coverage in the 1980 Census.

As mentioned earlier, this paper has concentrated on coverage improvement and not coverage evaluation. The area of coverage evaluation is also very important. In fact, there have been suggestions that the Census Bureau put more efforts into developing accurate measures of undercoverage at various levels of geography. If such estimates of undercoverage were available, the census counts could be adjusted. Some feel that such an approach would be more beneficial than expending great deals of effort and money to try to count every person during the census. The fact that this important issue is not discussed here is not an indication that these ideas have been ignored. It seems reasonable to develop a balanced attack to the problem. To date, more work has been done in the area of coverage improvement, and that work is reported in this paper. Results on efforts to estimate undercoverage and the issues of adjusting census counts by these estimates will be discussed in future papers.

This version of the paper is a condensation of the complete paper. Copies of the longer paper are available from the authors.

[The following letter was submitted by Senator Goldwater:]

U.S. DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS,
Washington, D.C., September 11, 1980.

HON. BARRY GOLDWATER,
U.S. Senate,
Washington, D.C.

DEAR SENATOR GOLDWATER: This is in response to your communication of July 17, 1980, transmitting correspondence from Major Ellis B. Qualls of Show Low, Arizona, concerning the local review census counts for Show Low. I apologize for the delay in responding to you.

Our Local Review Program, in an effort to assure complete enumeration coverage, was designed to give local officials an opportunity to review "working level" population and housing counts prior to the closing of census district offices. It should be emphasized that these were "working level" counts since the field enumeration was still in process at the time of their issuance and efforts to fully enumerate the population were ongoing. The housing unit counts, on the other hand, were believed to be essentially complete by the time of local review. Since it was intended that housing unit counts be the focus of the Local Review Program, we believe the operation was carried out effectively. Further, local review was performed at specified geographic levels and, given factual, documented evidence, local officials could challenge the completeness of the census by geographic area. The census district office, in turn, took necessary steps to reconcile the counts and report its findings to the local official.

Our district office in Flagstaff, Arizona, is now closed. According to the Denver regional census center, however, Mayor Qualls' concerns regarding the completeness of census coverage were thoroughly addressed during the local review process.

We appreciate Mayor Qualls' interest in an accurate census. Your correspondence is returned as requested. If we can be of further assistance, please let us know.

Sincerely,

VINCENT P. BARABBA,
Director, Bureau of the Census.

Enclosure.

NAMED BY THE TURN OF A CARD,
CITY OF SHOW LOW,
Show Low, Arizona, July 10, 1980.

Ms. BETH PACKARD,
District Manager,
San Francisco Avenue, Flagstaff, Ariz.

DEAR Ms. PACKARD: The City of Show Low is in receipt of the Preliminary Census Count, and we feel it to be totally inaccurate for the following reasons:

1. Your statistics show 2,034 housing units. We have sound reason to believe there are 2,369 housing units based upon maps showing housing units by the Continental Telephone Company. I have enclosed a copy for your review and use.

2. We are aware of the one family, which happens to be that of our City Engineer, who still awaits the collection of its Census Questionnaire. If this family, located in one of our housing areas was missed, there must be more who have been missed.

We have checked with the following utility companies who provide services within the City of Show Low: Show Low Municipal Water Company; McCarty Water Company; Navopache Electric Co-op, Inc.; and Continental Telephone Company.

Averaging out their records as to total users, winter cut-offs or vacancies, and using your 3.17 family projections, we arrive at a population figure of 6,733.88.

One might conclude the difference in the housing count alone would be a basis for a recount.

Your preliminary count indicates an increase of only 808 above the 3,379 total documented during the 1975 Special Census. It is inconceivable to me that our city, which is readily acknowledged as one of the most rapidly growing areas in the State of Arizona (see the Arizona Tomorrow, Inc. study prepared by the Hudson Institute), has only increased by 808 people over the last five years.

In view of the above, please accept this letter as our community's official request for a recount. Our city staff stands ready to assist you in every way possible.

I would also like to request the final figures be furnished to our city before the first of the year.

Sincerely,

ELLIS B. QUALLS, Mayor.

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

FORM D-74
(11-7-60)

1. Government name
City of Show Low

2. Name and title of reviewer
City Manager

3. Telephone number
537-5724

4. Date
7-10-80

5. D.O. code

LOCAL REVIEW PROGRAM RESPONSE
20th Decennial Census - 1980

City of Show Low

Specific area	Census count		Local estimate		Difference		Comments (Include source and date of the local estimates)
	Housing (c)	Population (d)	Housing (e)	Population (f)	Housing (g)	Population (h)	
Tract (if any) (a)							(i)
ED or block (b)							
City	2034	4186	2369	6733.88	335	1547	These figures are based upon the averages of the following utility companies records, for total users within the City and shut-offs or vacancies: Show Low Municipal Water Co. Navopache Electric Co. Continental Telephone Co. McCarty Water Co.

U.S. DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS,
Washington, D.C., October 22, 1980.

Hon. PATRICK J. LEAHY:
U.S. Senate,
Washington, D.C.

DEAR SENATOR LEAHY: Thank you for your recent letter concerning my testimony before the Rural Development Subcommittee of the Senate Committee on Agriculture. I was pleased to testify and happy to have had an opportunity to explain our statistical program for smaller cities and rural areas. I think our discussion was productive.

Enclosed are answers to the additional questions you raised. I hope these are responsive to your concerns. Under separate cover, I am forwarding our response to the questions raised in the letter from Mayor Godnick of Rutland, Vermont.

Again, it was a pleasure to have testified before your Subcommittee. I will be happy to provide additional information on the subject if it is required.

Sincerely,

VINCENT P. BARABBA,
Director, Bureau of the Census.

Enclosure,

Question No. 1. When will the Burlington area receive official designation as a Standard Metropolitan Statistical Area? What additional federal programs and funds will Burlington be eligible for once it becomes an SMSA?

Answer. New SMSA's will be established as rapidly as the final counts for each State become available. This activity was due to take place this fall and winter, but that schedule could be delayed depending on the outcome of lawsuits which would require the Census Bureau to adjust the final census counts for any undercount. The actual designations are not made by the Census Bureau, but by the Office of Federal Statistical Policy and Standards (OFSPS), a separate Department of Commerce unit. The new SMSA's will be reflected in 1980 census tabulations and publications beginning with the first reports to contain final official counts (i.e., the Advance Report Series).

Although we do not yet have all the necessary statistical information, it appears almost certain that Burlington will qualify as an SMSA on the basis of 1980 census results. The official announcement of each new area will be made by OFSPS to both Senators and the appropriate representatives. These official announcements will not be made until all of the new areas have been determined.

With regard to the eligibility of the SMSA's for Federal programs, the SMSA's are defined by the Commerce Department for statistical purposes. There is a statistical policy directive which states that "SMSA's shall not be used in the administration of any nonstatistical program unless the head of the agency has determined that such use is appropriate to achieve the program's objectives." Because of the nature of the Bureau's function, we do not maintain a definitive list of the nonstatistical programs that involve SMSA status. Enclosed is a list of such programs that was prepared by OFSPS in 1978 (Enclosure 1). Further information on this aspect of the SMSA's may be obtained from the OFSPS or the Congressional Research Service.

Question No. 2. Several local officials in Vermont have expressed concern that the Census Bureau may not be counting residents of their communities who may have mailing addresses in other communities. Does this potential for oversight exist? What of rural towns with no post office or mail service?

Answer. The problem of ZIP codes being shared by different political jurisdictions or of post office names often being that of a neighboring jurisdiction are not uncommon. The Census Bureau is aware of this and has developed procedures to ensure that people are counted where they actually reside regardless of their mailing address.

In most parts of the country, typically the suburban and rural areas, the address list that was used to label the census questionnaires was developed by census enumerators who canvassed the areas in a systematic manner. They inquired at each household for an adequate mailing address. If the residents gave a post office name and ZIP code of one jurisdiction because that was used to deliver the mail but actually lived in a neighboring jurisdiction, they are counted in the correct jurisdiction because the physical location of the house is recorded on the map by the enumerator and also assigned the correct geographic code in our computer file which is used to tabulate the data.

Question No. 3. Many Vermonters have complained to me about the personal and seemingly prying and unnecessary nature of some of the questions they were asked to answer in the census. some personal questions I can understand the need for and I realize that many of them are necessary to carry out Acts of Congress, e.g. an area's income to target job assistance. However, a few specific questions on surface appear to go too far. Can you tell us why you need to ask:

- (a) A person's monthly rent and the adequacy of their plumbing facilities?
- (b) The relationship of persons in a household?
- (c) Do you enter your living quarters directly from the outside or through a common or public hall, or through someone else's living quarters?

Answer. A number of people have indicated a concern over some of the specific questions asked on the census questionnaire. The Bureau, therefore, developed a document entitled "Summary Descriptions Of Data Use For Quesitons Planned for Inclusion In The 1980 Census" which links each question to the data needs of various Federal programs. I am attaching a copy for your files (Enclosure 2).

The answers to the specific questions you raised are found on the following pages:

- (a) Monthly rent and adequacy of plumbing facilities (pp. 37 and 42).
- (b) Household relationships (p. 3).
- (c) Access to unit (p. 37).

Question No. 4. Does the methodology and demographic skill exist to estimate the 1980 Census undercount for each of the nation's 39,000 local governments? How much would this cost to calculate? Would there be a 'Local Review Process' for these undercount estimates as there was for the preliminary 1980 Census counts on housing and population?

Answer. The decision in the Detroit suit would require the Census Bureau to adjust the official 1980 census counts. We have recommended that the Justice Department appeal the court order because there is no feasible statistically defensible method to measure the undercount in all sub-State jurisdictions. In the meantime, we are working on our response to the court order and investigating alternative methods by which adjustments for undercount might be made. For several years the Census Bureau has been considering whether an adjustment should be made for the undercount for purposes other than apportionment. Unless a final determinaiton is made by the courts, we poan to announce publicly in November or December of this year whether we believe an adjustment should be made and how the adjustment, if any, will be done.

Since the figures derived as a result of an adjustment would be based on a statistical procedure there would not be any purpose served by a review of the resultant figures by State officials. However, if an adjustment is ultimately done, there will be a complete description of the methodology used for the adjustment.