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STATEMENT OF

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BEFORE THE SUBCOMMITTEE ON CENSUS AND POPULATION
COMMITTEE ON POST OFFICE AND CIVIL SERVICE
HOUSE OF REPRESENTATIVES

AND THE

SUBCOMMITTEE ON POSTAL OPERATIONS AND SERVICES
COMMITTEE ON POST OFFICE AND CIVIL SERVICE
HOUSE OF REPRESENTATIVES

ON

THE CENSUS BUREAU'S 1984 ADDRESS LIST COMPILATION TEST

Chairman Garcia, Chairman Leland, subcommittee members, I am pleased to appear today to discuss the Census Bureau's 1984 Address List Compilation Test. With me is Bob Giusti who conducted our review of the test results. This morning I will focus on four areas:

--the importance of a good address list,

--past list development techniques and problems,

--the results of the 1984 test, and

--prospects for list development for 1990 and beyond.

ADDRESS LIST DEVELOPMENT

A complete and accurate address list is critical because the census is conducted primarily by mailing questionnaires to households across the nation. The list is also used as a control mechanism to account for returned questionnaires and to determine where followup is necessary. Erroneous addresses can trigger costly followup procedures, which involve census enumerators physically visiting the locations.

A complete population count is also at stake. The Bureau has gained considerable knowledge in address list development, and, by and large, reaches most households. The fact remains, however, that the Bureau's assessment showed that it missed about 1.2 million occupied housing units during the 1980 Census.

The Bureau has generally relied on two methods of developing an initial address list--one for large urban areas and another for the remainder of the country. For large urban areas, commercial vendor mailing lists are purchased.

The list for rural and small urban areas, however, is developed by having Bureau employees visit area streets and roads to locate where people live or could live. Because these initial lists are developed many months before the census, the Bureau periodically subjects them to a variety of updating procedures such as field checking by Census employees and checks by Postal Service carriers.

In the past, the Bureau has experienced problems developing address lists. For example, the 1980 address listing operations for rural and small urban areas, originally scheduled to take 3-1/2 months, took 8 months due to problems such as poor quality maps, greater workload than anticipated, and unexpected high turnover of staff. Additionally, vendor lists for large urban areas have not always been complete or accurate.

It cost $97 million to develop and update the address lists for the 1980 Census. Considering this cost and previous list development problems, we recommended in 1982[1] that the Census Bureau explore options to its traditional list development methods. We suggested two: updating the 1980 mailing lists and purchasing lists from the Postal Service.

The Bureau's 1984 test was designed to evaluate the cost and quality of lists produced by these alternatives.

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[1]A $4 Billion Census in 1990? Timely Decisions on Alternatives to 1980 Procedures Can Save Millions (GGD-82-13, February 22, 1982).

It was conducted in two urban sites in Connecticut (Hartford and Bridgeport) and two rural areas--one in Texas (Hardin County), and one in Georgia (the combined county group of Gordon and Murray Counties). At each of these locations, the Bureau tested different combinations of list development and updating options (shown in Attachment I).

The Bureau decided that the sites selected were the minimum necessary to achieve the test's objectives without inordinate costs. According to Bureau records the test cost slightly more than $1.5 million.

WHAT THE TEST SHOWS

I would now like to highlight our key observations on the urban test results. My comments will focus on Hartford, which was the one area which compared the use of vendor lists with the updated 1980 Census list and a list prepared by the Postal Service.

Our evaluation showed that obtaining initial lists from vendors cost much less, on a per address basis, than purchasing the Postal Service's list or using the Census' 1980 list. The per address cost was 5 cents for the initial vendor's list compared to 15 cents for Census' 1980 list, and 20 cents for the Postal Service's list.

All three of these initial lists went through the same updating procedure and incurred similar costs.

As a result, after updating, the commercial list remained the least expensive and the Postal Service's list the most expensive.[2] Also, there was no major difference among the accuracy of the lists once they had been updated.

The Postal Service list was clearly more expensive, but the cost difference between purchasing it and the commercial list was not as great as that indicated by the Bureau's published test results. The Bureau's figures showed that the per address Postal Service cost as 97 cents, because it included the one-time programming cost of about $41,000 in its computation. The Postal Service argued that, in an expanded nationwide effort, these nonrecurring costs would be virtually negligible when spread over an estimated 100 million households.

We agree and excluded such costs from our analysis to provide a more realistic estimate between the cost of the various list options. It should be recognized, however, that if the Postal Service was to develop an address list nationwide, it would incur costs for hardware, software, and personnel. Although there is no reasonable basis--at this time--to estimate what these costs would be, they would have to be added to the Postal Service's 20 cent per address cost.

We identified two basic factors which contributed to the Postal Service's higher cost for the Hartford test.

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[2]The detailed cost comparisons are shown in Attachments II and III.

First, vendors can spread their costs among numerous customers, while the Postal Service developed its list for only one--the Census Bureau. Second, the Postal Service does not maintain a readily available address list and has to conform its zip code addresses to census geographic areas.

I would now like to briefly discuss the results of the rural portion of the test, which compared the address lists developed by the Postal Service and the Bureau.[3]

The Bureau's calculations showed that the per address cost for the Postal Service's initial list was more expensive than the Bureau's list in Georgia ($3.00 vs. $2.55 per address), but less expensive in Texas ($2.63 vs. $2.97 per address). The Bureau's figures, however, included one-time programming costs that we believe should be excluded in making cost comparisons. Once this is done, the Postal Service lists in both locations were less expensive ($2.15 vs. $2.55 in Georgia, and $1.79 vs. $2.97 in Texas).

Although the Postal Service list was less expensive, carriers had difficulty listing the physical location of housing units on Census maps and assigning the proper Census geographic designation to each address. For example, the Postal Service listed 1,300 addresses that had the incorrect Census geographic designation. The Bureau staff was able to correct 625 of the addresses, but was unable to do so for the remaining ones.

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[3]The detailed cost comparisons are shown in Attachments IV and V.

The Bureau not only needs a complete list of mailing addresses, it must also know the physical location of the housing units to contact nonrespondents for followup enumeration and for generating statistics by specific geographic or congressional districts. This is especially important in rural areas where housing units are often far-removed from the points where mail is delivered.

As a result, the Bureau concluded that lists prepared by Census employees form a better basis for improving rural enumeration techniques than those prepared by the Postal Service because of fewer geographic problems and better location descriptions. The Postal Service generally agreed with the Bureau's decision.

DECISIONS REACHED

Based on the urban and rural test results, the Bureau has concluded that there is no significant advantage in using the Postal Service as its primary source for creating the address list for the 1990 Census. Instead, the Bureau plans to use the same methodology that it used for the 1980 Census. This decision was based on the fact that 1) the Postal Service list offered no cost advantage in urban areas, 2) the Postal Service experienced operational problems in the rural area, (3) the risk involved in changing to a new and largely untried address list development technique, and (4) the anticipated problems in passing the legislation needed to authorize the Postal Service to create address lists for Census use.

The 1984 test provided valuable insight into address list development techniques in both the urban and rural areas. However, because of its limited scope, the test results cannot be projected to all areas of the country. Obviously, a test based on a probability sample would have been preferable, but according to the Bureau, its cost would be prohibitive.

Considering these limitations, and after reviewing the test data, we cannot question the Bureau's decisions to repeat the 1980 methodology for the 1990 Census. We are encouraged, however, that the Bureau plans to automate the 1990 address list and hopes to periodically update it so it can be used as a basis for developing the mailing lists for future censuses. We have supported this position in the past, and strongly endorse its implementation.

EXPANDED POSTAL SERVICE ROLE

Also looking to the future, the Bureau has received a commitment from the Postal Service to sort the returned questionnaires for the urban portion of the 1986 pretest. The Postal Service's automated sorting operation should help the Bureau process the questionnaires more quickly.

In addition, the two agencies are pursuing other opportunities to automate activities done manually by the Bureau in 1980.

These include the Postal Service automatically matching the returned questionnaires against the Bureau's automated address control file and geographically matching the addresses in the Postal Service's Zip+4 files to Census maps. We endorse the Postal Service's continuing commitment to help the Bureau improve Census operations.

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That concludes my statement. I would be happy to answer any questions.

ATTACHMENT I

PROCEDURES FOR DEVELOPING AND UPDATING ADDRESS LISTS

URBAN				RURAL			
Hartford		Bridgeport		Georgia		Texas	
List source	Update	List source	Update	List source	Update	List source	Update
Commercial mail list	Field check by Census employees	Commercial mail list	Field check by Census employees & Postal Service check	--	--	--	--
1980 List	Field check by Census employees	1980 List	Field check by Census employees & Postal Service check	--	--	--	--
Postal Service List	Field check by Census employees	--	--	Postal Service List	Field check by Census employees	Postal Service List	Field check by Census employees
--	--	--	--	Prelist by Census employees	Postal Service check	Prelist by Census employees	Postal Service check

ATTACHMENT II

HARTFORD[a] COSTS REPORTED BY BUREAU VENDOR LIST AND CENSUS' 1980 LIST

VENDOR LIST

Item	Cost	Number of addresses	Cost per address	
Initial				
Magnetic tape file - addresses	$ 2,561	51,088	$0.05	Initial
Updating (dependent canvass):				
Regional office costs	22,131			
Enumeration costs	8,851			
Address register printing	2,728			
	$33,710			
Total	$36,271	52,580	$0.69	Updated

CENSUS' 1980 LIST

Initial:				
DPD keying, including quality control	$ 6,000			
Geography Division travel	250			
Geography Division computer	2,000			
	$ 8,250	55,169	$0.15	Initial
Updating (dependent canvass):				
Regional office costs	22,131			
Enumeration costs	8,851			
Address register printing	2,728			
	$33,710			
Total	$41,960	53,452	$0.79	Updated

[a]Unlike Hartford, the Bridgeport test did not evaluate a Postal Service list, but compared only a vendor list with the Bureau's updated 1980 list. In this regard, the Bridgeport results were similar to Hartford in that the vendor list was less expensive than the updated Census list both before and after updating procedures.

ATTACHMENT III

HARTFORD COSTS REPORTED BY BUREAU FOR POSTAL SERVICE LIST

Item	Initial			Recomputed by GAO		
	Cost	Number of addresses	Cost per address	Cost	Number of addresses	Cost per address
Initial:						
Training[a]	$ 2,948			$ 2,184		
Address list development	3,702			3,702		
Key/verify	2,842			2,842		
Reverify	677			677		
In-house computer time[a]	455			337		
Programming[b]	41,436			-		
Quality control	966			966		
	$53,026	54,730	$0.97	$10,708	54,730	$0.20
Updating (dependent canvass):						
Regional office costs	$22,131			$22,131		
Enumeration costs	8,851			8,851		
Address register printing	2,728			2,728		
	$33,710			$33,710		
Total	$86,736	53,422	$1.62	$44,418	53,422	$0.83

[a]The Postal Service added a 35 percent markup to cover indirect costs for training and in-house computer time.

[b]For cost comparison purposes, we excluded these one-time, nonrecurring costs because they would be negligible when distributed over millions of addresses in a nationwide census. We recognize, however, that additional programming costs would be incurred, but do not have a reasonable basis for estimating them at this time.

ATTACHMENT IV

GEORGIA COST COMPARISONS[a]

CENSUS				POSTAL SERVICE						
	Initial				Initial			Recomputed by GAO		
Item	Cost	Number of addresses	Cost per address	Item	Cost	Number of addresses	Cost per address	Cost	Number of addresses	Cost per address
Printing/ assembling address registers	$ 439			Training[b]	$ 2,203			$ 1,632		
Field prelist activities	38,975			Address list development	21,684			21,684		
Keying & cost to correct prelist addresses missing Post Office or zip code	7,310			Key/verify	1,075			1,075		
				Reverify	2,191			2,191		
				In-house computer time[b]	173			128		
				Programming[c]	15,692			-		
				Quality control	5,468			5,468		
				Deviation from route	2,834			2,834		
				Verification of address listing	930			930		
Computer costs	2,583			Miscellaneous	429			429		
					$52,679			$36,371		
				Census costs to correct geography	5,205			5,205		
Total	$49,307	19,300	$2.55	Total	$57,884	19,307	$3.00	$41,576	19,307	$2.15

[a]In the rural area, the Bureau subjected each address list to a different updating technique--a field check by Census employees, and Postal Service casing check. Because of the difference in cost associated with these two techniques, the cost data for updated address lists is not comparable, and therefore, not included in this attachment.

[b]The Postal Service added a 35 percent markup to cover indirect costs for training and in-house computer time.

[c]For cost comparison purposes, we excluded these one-time, nonrecurring costs because they would be negligible when distributed over millions of addresses in a nationwide census. We recognize, however, that additional programming costs would be incurred, but do not have a reasonable basis for estimating them at this time.

ATTACHMENT V

TEXAS COST COMPARISONS[a]

CENSUS				POSTAL SERVICE						
	Initial				Initial			Recomputed by GAO		
Item	Cost	Number of addresses	Cost per address	Item	Cost	Number of addresses	Cost per address	Cost	Number of addresses	Cost per address
Printing/ assembling address registers	$ 356			Training[b]	$ 1,208			$ 895		
Field prelist activities	39,678			Address list development	12,907			12,907		
Keying & cost to correct prelist addresses missing Post Office or zip code	6,229			Key/verify	1,041			1,041		
				Reverify	6,159			6,159		
				In-house computer time[b]	166			123		
				Programming[c]	15,186			-		
				Quality control	2,487			2,487		
				Deviation from route	3,990			3,990		
Computer costs	2,583			Verification of address listing	280			280		
				Miscellaneous	464			464		
Total	$48,846	16,450	$2.97		$43,888			$28,346		
				Census costs to correct geography	5,205			5,205		
				Total	$49,093	18,692	$2.63	$33,551	18,692	$1.79

[a]In the rural area, the Bureau subjected each address list to a different updating technique--a field check by Census employees, and Postal Service casing check. Because of the difference in cost associated with these two techniques, the cost data for updated address lists is not comparable, and therefore, not included in this attachment.

[b]The Postal Service added a 35 percent markup to cover indirect costs for training and in-house computer time.

[c]For cost comparison purposes, we excluded these one-time, nonrecurring costs because they would be negligible when distributed over million of addresses in a nationwide census. We recognize, however, that additional programming costs would be incurred, but do not have a reasonable basis for estimating them at this time.