

OIG Briefing Report

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Census 2010:

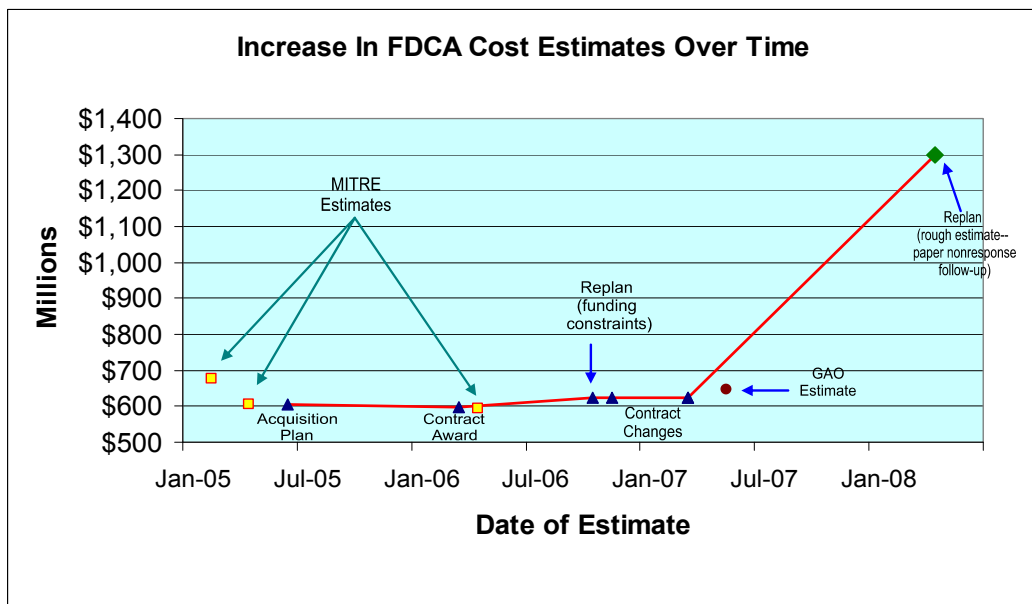
OIG Reviews Through the Decade Identify Significant Problems in Key Operations (OIG-19217)

This report responds to the Secretary's request for a briefing on our work on the 2010 decennial census. It summarizes our key decennial reviews to date and highlights continuing problems we have identified in the areas of contracting, maps and address lists, systems development, and enumerating hard-to-count populations. These are issues that require the bureau's close attention and that continue to direct our decennial oversight activities. Complete details of these issues and our related findings and recommendations are contained in the reports referenced throughout. (Reports are available at www.oig.doc.gov.)

Field Data Collection Automation (FDCA) Contract (OSE-17368, OIG-17524)

The Census Bureau's decision in 2001 to automate certain major operations for the 2010 decennial was a radical departure from traditional census-taking methods—one that posed significant risks while offering considerable potential efficiencies, savings, and improvements in the count. This decision and its inherent risks have framed much of our oversight of the bureau's preparations for 2010.

The handheld computer systems Census proposed using were the centerpiece of its reengineered field operations. The presumption of their use for developing address lists and enumerating people who did not mail back questionnaires (nonresponse follow-up) guided the bureau's decision making for conducting virtually all major operations. The subsequent problems encountered with their development have led to an enormous growth in the estimate to complete the FDCA contract, and have impacted the entire 2010 operational plan.



We reported in 2005 numerous issues with the acquisition process for the handheld devices. Though the bureau decided in 2004 to contract for the systems, it took nearly 2 years to actually award the contract, which greatly diminished time for developing and testing the handhelds. Census also failed to adequately define system requirements, a situation that has plagued their development. Lacking sufficient technical and program management resources reduced from the outset the bureau's odds of developing functional systems on time and within budget.

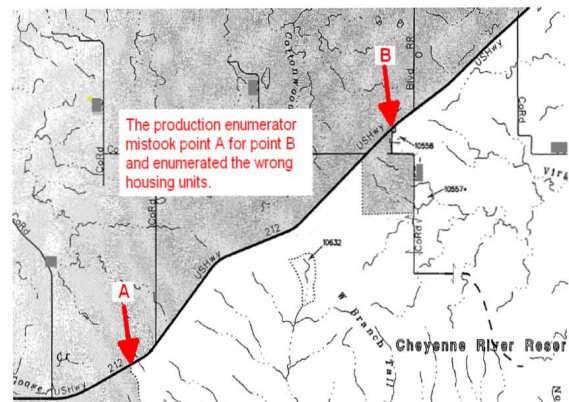
Census had originally intended to develop the system in-house and tested prototypes in both 2004 and 2006. The devices and related systems had serious problems in both tests, including crashes, slow response times, and lost data. These experiences should have informed the bureau's efforts to define requirements for the contractor, but they did not. Since letting the contract, Census has changed and added numerous requirements before finally abandoning plans to use these devices for nonresponse follow-up. We are closely monitoring its efforts to retool operations to accommodate this change.

Maps and Addresses

(OIG-17524, OSE-18027, OSE-15725)

The National Academy of Sciences reported in 2000 that “the address list may be the most important factor in determining the overall accuracy of a decennial census.”¹ But developing an accurate master address file (MAF) and maps has been a long-standing problem for the Census Bureau. (Census relies on a digital mapping system, known as “TIGER”.) Our reviews have found numerous instances in which enumerators are sent into the field with incorrect maps and address information.

Map and Address Reliability. In Census 2000, the master address list contained millions of duplicates. This year, our review of the address canvassing operation conducted during dress rehearsal continued to find errors in the lists that resulted in duplicate addresses or missed housing units. (A report detailing our specific findings is forthcoming.)



Four people attempted to sort out this area using maps that lacked landmarks and some roads. They introduced numerous errors to the housing information.

Inadequate maps and address lists were an issue during the 2006 test of update/enumerate—the paper-based operation Census uses to survey American Indians living on reservations—and these tools were a key factor in the operation's failure to improve the population count. We found that enumerators often could not locate the households they were assigned to survey because maps lacked current community landmarks and other details that help one navigate large rural communities devoid of traditional postal addresses. Census officials told us that due to the high cost, they have not updated most landmark features on their maps in 20 or 30 years.

The bureau had expected the handheld devices to facilitate its ability to improve map details and address lists during address canvassing. But the technical problems with the systems we noted in

¹ National Research Council (2000). *Redesigning the 2010 Census: First Interim Report*. Panel on Research on Future Census Methods, Committee on National Statistics. Washington, D.C.: National Academy Press.

both the 2004 and 2006 tests prevented field staff from making the extensive corrections needed. To compensate for the map deficiencies, we recommended that the bureau equip enumerators with handheld computers containing GPS for navigation and the GPS coordinates collected during address canvassing. Census agreed to consider this option and share its decisions with us, but we have not yet received any proposals concerning this recommendation.

System and Software Development. Shortly after the 2000 census, the Census Bureau initiated an in-house upgrade of the technology supporting MAF/TIGER to improve map and address accuracy for 2010. We evaluated the upgrade project in its early stages, and found that the bureau did not have an effective management process in place at the project's inception: system requirements, a work plan, and project schedule were not developed in tandem, and this complex redesign got a late start. We were concerned that the new system would not be thoroughly tested in time for the 2008 dress rehearsal. We also found that the bureau's software development process did not follow key industry standards and best practices for minimizing risk. Our evaluation of dress rehearsal operations found that system development is incomplete: still unavailable are capabilities needed to update certain maps and analyze address accuracy.

Quality Control. Without sound quality control procedures, Census lacks assurance that field operations are working as intended and the data collected is reliable. Weaknesses in quality control have been a recurring theme in our evaluations of both the 2000 and 2010 operations, particularly as they relate to maps and addresses.

Our reviews of operations tested in 2006 recommended some enhancements to the quality check for group quarters address lists to improve their accuracy, and to quality procedures in update/enumerate to better identify missed housing units.

In this year's dress rehearsal, the bureau greatly streamlined quality control procedures for address canvassing, but technology problems prevented Census from collecting reliable data to assess and improve the procedures before 2010. For example, field staff conducting the quality check had difficulty downloading address data to their handheld computers, and computer-generated tracking reports incorrectly described the operation's progress.

Hard-to-Count Populations

(OSE-18027, IPE-18046, OIG-16949)

People who do not have a permanent residence, who move regularly, are homeless or live in remote or inaccessible areas, or who live in certain types of group situations (e.g., prisons, college dormitories) are especially difficult to count. The Census Bureau develops separate operations that target these groups. We evaluated the 2004 and 2006 tests of several of the operations the bureau has planned for Census 2010.

Update/Enumerate. This operation, used to survey reservations and other sparsely populated, remote locations, sends enumerators door to door to survey residents and update map and address information. Reservation populations historically have been undercounted in decennial censuses, largely because several families share a single residence, and family members may be unwilling or unable to accurately report how many people actually reside at a particular address. As part of its 2010 redesign, Census revised the update/enumerate questionnaire to better capture these numbers. But our review of the update/enumerate operation tested in 2006 evaluated the impact of this change and found it to be ineffective: despite the test's primary objective of

finding more people, the revised questionnaire identified only 16 households as having additional members, and ultimately only *one* person was added to the total number of residents in these households. We identified a number of reasons for the poor outcome, among them that many enumerators failed to ask the survey question designed to identify additional household members. We recommended a number of options the bureau should consider, including improving enumerator training.

Group Quarters. According to Census 2000 data, some 7.8 million people live in group situations (college dormitories, nursing homes, prisons, and group homes). These residents are hard to count accurately, partly because developing precise criteria for identifying who to include in this group is difficult. If a group quarters is misidentified as a single-family residence, it will be sent the household questionnaire, which is not effective for counting unrelated persons and increases the likelihood of errors in the count and does not provide specific group quarters information.

The group quarters enumeration approach tested in 2004 made little progress in improving the bureau's ability to count this population: our review found that the criteria were ambiguous and were developed after training materials had been prepared. The materials therefore did not provide adequate instruction for enumerators on how to differentiate and properly categorize certain types of group homes. The bureau also failed to adequately test a new category it had added—off-campus, university-leased housing.

For the 2006 test, Census addressed some of the problems we identified in 2004. It developed and verified a list of group quarters (which included several colleges and universities, and a state prison), and either helped residents complete the form, left census questionnaires to be picked up at a later time, or used administrative records to fill in the needed information. Even so, the response rate among college students was low: only 719 of 6,700 (11 percent) of the questionnaires were returned. We recommended, among other things, that Census evaluate its distribution methods to see if they contributed to the low return rate and explore using student e-mail addresses and an Internet response option to promote a greater return. To date, Census has not explored these options, citing cost, privacy, and security concerns.



Small residential group quarters often blend into single family neighborhoods and are incorrectly enumerated. In the 2006 test, this house in the Austin, TX, test site was not counted as a group quarters.

Outreach. Effective outreach is an important component in improving the count among hard-to-enumerate groups. We found that during the 2006 census test, the bureau had yet to develop a fully functional database to leverage the support of the thousands of community partners that had helped improve response rates by publicizing Census 2000. Without a good database, Census will have difficulty efficiently communicating with partners and tracking the time and resources they've committed to the outreach effort. Partnership specialists for 2010 are already on board and conducting outreach, but a database is still unavailable.

(For more information, contact the Office of Inspector General at 202-482-4661.)