

Testimony of
THE HONORABLE TODD J. ZINSER
INSPECTOR GENERAL

U.S. DEPARTMENT OF COMMERCE

before the

**Subcommittee on Information Policy, Census, and National Archives,
Committee on Oversight and Government Reform,
House of Representatives**

Wednesday, October 21, 2009

***Census 2010:
Importance of the Master Address File and
Steps Census Can Take to Strengthen Its Quality***

Mr. Chairman, Ranking Member McHenry, and Members of the Subcommittee:

Thank you for inviting us to testify on the status of the Census Bureau's master address file, which has important implications for the accuracy of next year's census. My testimony today will describe how the master address file, or MAF, is used—including its relationship to address canvassing and the bureau's plans to improve it. We will also offer suggestions for strengthening MAF quality and, with it, the likelihood of Census 2010 success.

ADDRESS ACCURACY IS KEY TO CENSUS SUCCESS

The mission of the 2010 census—to count people *once, only once*, and in the *right place*—is a difficult task. For the successful completion of the 2010 census, the Census Bureau must:

- Identify all potential structures in which people might reside—estimated to total more than 130 million housing units—and accurately depict them on census maps.
- Determine the best method of enumerating people living in those structures—either by mail or through in-person interviews.
- Accurately aggregate its enumerations by statistical and political jurisdictional boundaries.



The ability to improve accuracy and contain costs depends on two major elements: delivering questionnaires to the correct physical locations; and motivating the public to complete and—in most cases—mail back their forms. When this does not happen, the bureau must enumerate the population through expensive non-response follow-up and other operations that require temporary workers to go door-to-door to obtain census information. Projected to cost \$80–90 million for each additional percentage point of the public that a census enumerator must visit, non-response follow-up represents Census’s single largest cost driver. Follow-up operations also introduce the possibility that individuals may be counted more than once.

The Census Bureau describes “an accurate, comprehensive, and timely [address] list” as “one of the best predictors of a successful census.” If the list is incomplete or inaccurate, people may be missed or counted more than once. Errors in the MAF can also increase costs and the public burden by requiring visits to nonexistent or duplicate locations in non-response follow-up.

For the 2010 decennial, the bureau will rely on the MAF to identify all places in which people live—or could live—and stay. The MAF is intended to be a current, comprehensive list of every address in the nation, whether occupied or vacant. The bureau associates MAF addresses with their locations on the bureau’s digital map, known as TIGER (*Topologically Integrated Geographic Encoding and Referencing*). This process is referred to as *geocoding*. Only geocoded addresses are included in the address canvassing operation, and only geocoded addresses receive census questionnaires. Geocoding is the method the bureau uses to fulfill its mandate to count people in the right location.

THROUGHOUT THE DECADE, BUREAU’S ATTEMPTS TO ENHANCE ADDRESS LIST MET WITH ONLY PARTIAL SUCCESS

Following Census 2000, the bureau launched an ambitious plan to maintain and update the MAF and TIGER databases. Planned activities included integrating the two systems into a single MAF/TIGER database, realigning every street and boundary in the TIGER database, conducting the annual Boundary and Annexation survey to update the legal boundaries of all governmental units, updating the MAF semiannually with U.S. Postal Service (USPS) addresses, determining the physical locations of ungeocoded postal service addresses, and updating rural areas using staff from the American Community Survey (the survey that replaced the long-form census). The first four of these activities were implemented fully, the last two only partially.

Census’s initial 2010 design also included maintaining and updating the address list throughout the decade and using a targeted approach to address listing. The bureau estimated that \$155 million in savings could be achieved. These savings depended on the use of Global Positioning System (GPS)-equipped handheld devices to reduce time and travel costs associated with non-response follow-up and a targeted approach rather than

employing a massive end-of-decade address listing operation. In March 2004, Census issued a planning memorandum that stated that the bureau no longer believed that “we can assume this approach will be perfected for 2010.”

For the 2010 decennial, two principal address-updating operations were ultimately used, incorporating local government-provided address information through an operation known as Local Update of Census Addresses (LUCA), and nationwide address canvassing. Over 8,000 state, local, and tribal governments participated in LUCA, adding more than 8 million addresses to the MAF that were also included in the address canvassing operation. MAF/TIGER will evolve from Census 2000 through the 2010 operations. Updates occur throughout the decade, the most significant being the twice yearly U.S. Postal Service address updates. In addition, several 2010 Census operations provide an opportunity to add housing units, and a final USPS update occurs in February 2010.

Costing over \$400 million, address canvassing was designed to ensure that the census address list and maps are as accurate as possible by verifying, updating, or deleting addresses; adding missing addresses; updating streets on the TIGER maps; and geocoding every structure by assigning GPS coordinates. During this huge operation, about 140,000 temporary decennial staff, using handheld computers containing MAF addresses and TIGER maps, tried to identify every location at which an individual could live or stay and ensure that it was correctly recorded and geocoded. Address canvassing for the 2010 Census was completed in July 2009.

To provide some idea of the magnitude of this undertaking, address canvassing began with about 145 million addresses; after verifying, adding, and deleting housing units, the final housing unit count was reduced to just under 134 million addresses.

OFFICE OF INSPECTOR GENERAL (OIG) WORK THROUGHOUT THE DECADE ILLUSTRATES THE EFFECT THAT ERRORS AND OMISSIONS CAN HAVE ON MAF QUALITY

Developing an accurate MAF and maps has been a long-standing challenge for the Census Bureau. We have issued 29 reports and testimony on the decennial census since March of 2000, with over half of them addressing this subject in particular. These 17 products contained numerous recommendations for improving MAF and TIGER. Our reviews have consistently found problems with the maps and address information, and we have raised concerns about the effectiveness of address canvassing to correct these errors.

2006 SITE TEST IDENTIFIED EXAMPLES OF DIFFICULTIES WITH ADDRESS ACCURACY AND CANVASSING APPROACH

In evaluating activities to update the MAF and related maps during the Census Bureau’s 2006 test of planned decennial operations, designed to test proposed concepts, systems, and procedures for the 2010 Census, we reviewed actual field operations in the test locations. We found examples of missing, duplicate, and erroneous addresses.

The 2006 test was conducted in two locations: a portion of Travis County, Texas, that included parts of the city of Austin and its suburbs; and the Cheyenne River Reservation and Off-Reservation Trust Land in South Dakota. We visited both locations several times to observe address canvassing and two enumeration operations; we found a number of issues with the MAF and maps.

In South Dakota, the bureau tested address canvassing using the handheld computers followed by the update/enumerate operation it planned to use in the 2010 census. Update/enumerate is used to count American Indians living on reservations, colonias (usually rural, Spanish-speaking communities), resort areas with high concentrations of seasonally vacant living quarters, and other hard-to-find rural populations. During update/enumerate, which is a paper-based operation, Census staff go door-to-door to collect population data. They are instructed to also make any needed corrections to the bureau-generated maps and address lists that they use to locate housing units. Our findings from this test included the following:

- The bureau's update/enumerate procedure requires staff to systematically travel all streets, roads, and paths in each block in a clockwise direction, comparing housing units on the ground with those on the maps. During the operation, we observed that enumerators had difficulty finding their assignment areas, reading the map spots (which represent individual housing units), and associating address descriptions with the correct housing units because address canvassing did not adequately improve maps or housing unit descriptions.
- Enumerators often could not determine where to start canvassing because one or more assignment area's boundaries were unmarked, nonexistent, or otherwise difficult to find and had inaccurately portrayed landmarks. Enumerators consequently resorted to traversing from map spot to map spot, which caused them to miss some housing units. We identified a number of missed or duplicate housing units along such boundary lines.
- As we traversed portions of 12 reservation assignment areas containing a total of 480 housing units after completion of update/enumerate, we found 35 that were never enumerated; 25 of these were not even on the map. For the remaining 10, enumerators misidentified the target housing unit and enumerated the wrong household, thereby creating duplicate enumerations. Further, these 35 housing units were not enumerated during the subsequent coverage follow-up operation.

Our findings for Travis County related to address canvassing and group quarters enumeration included the following:

- One lister could not find a block that contained several structures because it was bordered by an unnamed road not accurately represented on the handheld computer's map. As a result, the GPS you-are-here function indicated, in error, that the block was in the middle of an empty field. The lister did not delete the misplaced road from the map and did not canvass the actual location.
- After conducting a limited Internet search and speaking with only four group home administrators, we learned of at least 15 group quarters that were not on the list. Given the limited nature of our inquiry, many more were likely to have been missed. Identifying group quarters is important to those representing the various constituencies in group homes, even if the residents are counted via the housing unit questionnaire or during non-response follow-up operations, because data users want accurate facility and population counts.
- During our on-site observation of the group quarters enumeration operation, we became aware of two such facilities that also received housing unit questionnaires. We then reviewed 59 group quarters addresses to determine if any matched a housing unit address, which would mean that it also received a housing unit questionnaire. Six of the 59 group quarters addresses were confirmed by Census Bureau staff as, in fact, having also been listed as housing unit addresses that received housing unit questionnaires, which may have resulted in duplicate counting.

2008 DRESS REHEARSAL IDENTIFIED UNGEOCODED USPS ADDRESSES, MISSED HOUSING UNITS, AND INCONSISTENCIES BETWEEN PHYSICAL AND MAILING ADDRESSES THAT CAUSED LISTING ERRORS

We assessed address canvassing again in the 2008 dress rehearsal—reviewing information for 18,694 addresses from 125 assignment areas (100 randomly selected by Census and another 25 that we observed during dress rehearsal address canvassing). Many of the issues we reported in 2006 remained. Although we could not project an error rate to the overall MAF based on our sample, the regularity with which these problems surfaced suggests that they may be significant and could reduce the accuracy of the 2010 count. Census expects that other subsequent operations, such as update/leave (a questionnaire is left for the respondent to return by mail), new construction, and new postal service addresses, will resolve some of these errors, but—as we discuss later in this testimony—none will provide a comprehensive solution for identifying missed addresses that could be included in next year's census.

Specific dress rehearsal findings included the following:

- Two MAF improvement programs were canceled in 2007. The following year the programs were canceled. One program in particular, the MAF geographic office resolution program, would have linked (geocoded) USPS addresses to a specific location.
- Millions of ungeocoded Postal Service addresses in the MAF set the stage for missed housing units and increased workloads. For example, a 352-unit apartment complex was missing from the address canvassing list. The complex was built after 2000 and was in the MAF, but it was not geocoded and was therefore not on the address list given to the employee assigned to canvass the area. The canvasser correctly added 346 addresses, but mistakenly missed six apartment units and added one that did not exist.

We do not know if and how often this may have occurred during address canvassing conducted for the 2010 census, but to the extent that it did, the occupants of housing units not added to the list face an increased risk of not being counted. These errors could likely have been avoided if the geocoding program had been funded. With the 2010 address canvassing operation now completed, 3.3 million MAF address records still remain ungeocoded.

- The second problem pertaining to ungeocoded addresses relates to inconsistencies between physical and mailing addresses. A 391-unit retirement community illustrates how the workload increases for a poorly maintained address list. Canvassing lists for the retirement community contained “location” addresses—street names and unit numbers (e.g., 3629 E. Adams Avenue)—but in this case they did not correspond to the Postal Service mailing addresses. This is because USPS uses the complex name and unit number, known as the “vanity” address (e.g., 3629 ABC Apartments). The vanity addresses exist in the MAF (as provided by Postal Service updates) but are not geocoded to a specific block location, so they do not appear on canvassers’ lists.

If these developments had been new during 2010 address canvassing, listers would have had to add them to the MAF. However, residents likely would not receive a questionnaire anyway because the location addresses are often not recognized by the Postal Service. Consequently, these addresses will go into the costly non-response follow-up operation.

- Duplicate addresses were entered into the MAF during address canvassing. We found examples of quality-control staff reinstating addresses that had been correctly deleted by the canvasser, and incorrectly adding addresses to canvassers’ lists. In one example, 17 addresses correctly verified by a canvasser in one block were added to an adjacent block during quality control. Therefore, two sets of identical addresses now existed on the same street.

In 2000, geography-matching operations in Census Bureau headquarters would have attempted to identify and eliminate the identical addresses from the second block. But for 2010, Census has decided that it must keep these duplicate addresses as valid housing units to avoid missing a residence. According to the bureau, if it receives completed questionnaires from both, the addresses will still not be identified as duplicates since the housing units are in separate blocks. Such instances will likely result in over-counting.

- We also found that several hundred addresses in our sample were duplicates except for ZIP code. Up-to-date addresses were added by a LUCA operation conducted as part of dress-rehearsal testing, but the updates were not recognized as the same housing units in the MAF because the ZIP codes were different, so the LUCA addresses did not override the outdated entries. We brought this to the attention of Census staff, who told us that for 2010, they will not match on the entire zip code, only the first three digits, which should prevent duplication from occurring.

2010 ADDRESS CANVASSING OPERATION: LISTERS DID NOT CONSISTENTLY FOLLOW BUREAU PROCEDURES, THEY COULD NOT MAKE DATA CORRECTIONS, AND POOR PERFORMERS WERE NEITHER RETRAINED NOR REMOVED

With the beginning of address canvassing last spring, we have given considerable attention to assessing the management issues and risks involved in planning and conducting field operations. We observed the address canvassing operation firsthand across the country, and issued two reports¹ on address canvassing. A third such report, detailing the quality-control issues summarized below, is forthcoming.

We observed both the initial listing and subsequent quality-control steps. OIG staff first observed address canvassing in 15 different locales in 5 of the 12 Census regions. Based on the problems we observed, we expanded the number and breadth of our field address-canvassing quality-control observations to 63 listers in 37 rural and 14 urban areas around the country.

Findings from our observations of address canvassing include the following:

- Listers failed to conform to address-listing and map-spotting procedures in seven different locales representing all five regions in which we had observers. On April 23, 2009, we recommended to Census that it immediately communicate in writing with its field offices to reinforce the need to follow documented procedures. Census responded rapidly by issuing an e-mail message to field staff and conducted a teleconference with its regional directors about the issue.

¹ *Observations and Address Listers' Reports Provide Serious Indications That Important Address Canvassing Procedures Are Not Being Followed* (May 4, 2009, OIG-19636-01) and *Problems Encountered in the Large Block Operation Underscore the Need for Better Contingency Plans* (August 7, 2009, OIG-19171-02). See the appendix for a full listing of all OIG reports and testimony on the census from March 2000 through October 2009.

- Quality-control staff were unable to correct the address list after the quality check of a sample of housing units had been completed without the need for additional canvassing. Census staff often identified errors in a subsequent operation intended to verify all addresses deleted by the initial address lister. However, the handheld computers—performing as specified by Census—did not allow most address-list changes during that operation. Consequently, while confirming deletions, quality-control listers identified housing units on the list that should have been deleted; or discovered housing units, streets, and new developments that were not added. They were unable, however, to update the address list and maps on the handheld computers.
- Census acknowledged this inability to make unplanned corrections in the field using the handheld devices, and by the end of March of this year, headquarters instructed the field to use a paper form referred to as an INFO-COMM to record address and map errors found after the quality check had passed. According to address canvassing manuals, INFO-COMMs were to be used to identify canvassing problems, typically related to broken handheld computers or inaccessible areas due to locked gates or similar situations, including those deemed to be threatening.

Prior to the end of address-canvassing, Census personnel resolved INFO-COMMs with local Census office managers. However, recording address list corrections on INFO-COMMs was a new process. Therefore Census has no way of reliably knowing whether all necessary corrections were recorded on INFO-COMMs or if all INFO-COMMs were collected by the local census offices.

- Census did not retrain or remove poorly performing listers from the initial listing operation. While Census uses the quality check, in part, to identify poorly performing listers, the canvassing operation proceeded so quickly that the quality check did not begin until after much of address canvassing was completed.
- Our observations also noted a relaxing of map spot standards in five of the 12 Census regions. According to Census, however, it does not consider its actions to be a relaxation of standards, although it did issue guidance during the quality-control operation stating that, as long as listers placed the map spot reasonably in relationship to other living quarters in the block, the map spot was acceptable. Yet such loosely placed map spots defeat one of the primary justifications for obtaining GPS-aligned positioning: to ensure that listers geographically place housing units in the exact correct location for purposes of redistricting and governmental tabulations.

As we reported in August in our first quarterly report to Congress, the Census Bureau's ability to effectively oversee decennial progress has long been hampered by inherent weaknesses in its systems and information for tracking schedule, cost, and risk-

management activities. While the bureau's management of risk represents a significant improvement over the 2000 census, which lacked a formal risk-management process, much more remains to be done.

For example, as part of its risk-mitigation strategy, Census selected 11 of 24 program-level risks for the development of contingency plans. One risk area identified was related to the MAF and referred to as "Housing Unit Duplicates and Misses." However, even at this late hour, this plan is still being formulated, and no date has been set for its completion.

THE BUREAU HAS OPERATIONS PLANNED TO IMPROVE THE MAF, BUT COULD TAKE ADDITIONAL STEPS TO ENHANCE THE QUALITY OF THE ADDRESS LIST PRIOR TO 2010 DECENNIAL OPERATIONS

The Census Bureau has operations subsequent to address canvassing that will continue to update the MAF. Examples of some of the bureau's most significant planned operations that will improve the address file include the following:

- Group Quarters Validation—a field operation designed to determine if addresses identified in canvassing as "other living quarters," such as marinas, college dormitories, prisons, assisted living facilities, and nursing homes, have been correctly classified and are not, for example, housing units or non-residential. Fieldwork started late September and is scheduled to finish in late October. (We are currently reviewing this operation.)
- New Construction Adds—an operation to be conducted between November 2009 and March 2010 that will allow local governments to provide addresses of recently built living quarters whose construction began after address canvassing and is expected to be complete by April 1, 2010.
- Update/Leave and Update/Enumerate—enumerators canvass assignment areas to update residential addresses, including adding living quarters that were not included on the address listing pages; update Census Bureau maps; and either leave or complete a questionnaire for each housing unit. These occur in communities with special enumeration needs and in which many housing units may not have house-number-and-street-name mailing addresses, or do not receive USPS delivery. These operations occur during the March to early-June 2010 timeframe.
- Be Counted—unaddressed "Be Counted" questionnaires are left at selected sites such as libraries and various other community locations for one month starting March 19, 2010. The forms have a mailing deadline of May 1, 2010. Addresses on these forms require geocoding and if not currently on the address list, require verification to ensure they are housing units after they are received by the bureau.

DETERMINING THE QUALITY OF THE ADDRESS LIST NOW

The completion of address canvassing represents a major milestone in the 2010 census process. Despite errors, this list provides a baseline of the address list as it existed at the end of July 2009. The planned operations described above will be valuable in identifying missed and new addresses, but they do not provide a comprehensive assessment or corrections based on a review of the errors in the MAF. In responding to the question of what additional steps the bureau should consider to improve the MAF, we make several suggestions. In so doing, we recognize Census officials must account for the nonnegotiable deadlines that they must meet, and the potential impact that these suggestions would have on its remaining operations.

Census should consider the following approaches to assess and improve the quality of the MAF. The goal is to afford some level of assurance of the accuracy and completeness of the MAF, and provide a roadmap for improvement.

- ✓ HOUSING UNIT ESTIMATES REPRESENT AN EXISTING TOOL THAT COULD HELP ASSESS MAF QUALITY

For the past two decades, the Census Bureau has produced annual estimates of housing units for the nation, states, counties, and local jurisdictions as part of its program for estimating population between censuses. The estimates are calculated by cumulatively adding new housing to the current decennial's housing unit count (and subtracting those demolished) for each level of geography.

These estimates already serve as controls for many of the bureau's surveys. Further, the bureau used these benchmarks to assess under- and over-counts at the county level for Census 2000. For example, count comparisons for over 800 of the nation's most rural counties indicated potential undercoverage in 275 of the counties. In our work on the Census 2000 MAF, we recommended that the bureau use those results to inform remaining decennial operations in the many counties with significant discrepancies. In rural areas, knowledge of a significant number of missing addresses would alert the update/leave and update/enumerate operations to expect an increased workload.

- ✓ While these estimates are not without flaws, these data could again be used by the bureau to analyze potential shortfall or excess with the MAF for the 2010 decennial, at least at the county level, and to target areas where improvements to the MAF are needed.

ADMINISTRATIVE RECORDS CAN HELP ASSESS AND IMPROVE THE MASTER ADDRESS FILE

Another source of data for assessing the quality of the MAF are administrative records—data collected for the administration of programs and provision of services by federal, state, and local governments and commercial entities. Administrative records include, for example, address information from housing assistance, health services, and tax forms. The bureau already uses administrative records directly in its economic censuses and surveys to create yearly housing and population estimates. However, the bureau has not used this type of administrative record to incorporate missing addresses into the MAF. The current MAF could be compared against address data contained in administrative records to help identify errors and, in certain instances, to add missing addresses.

Census has considered the use of administrative records to supplement and guide the decennial census since the 1990s, when it began a formal administrative records program. The bureau has continued to process and collect this information and has developed a wealth of knowledge in the processing, matching, and deletion of duplicates for literally billions of records on an annual basis. In response to the high and differential undercount in the 1990 census, the bureau in 2000 used administrative records to evaluate housing unit coverage.

The bureau already uses administrative records—in the form of the Postal Service file—as a major component in building and updating the MAF. Use of administrative records to directly enhance the address file has the potential to improve the quality of the decennial with information the bureau already has on hand.

CENSUS CAN TAKE SPECIFIC STEPS NOW TO BETTER ENSURE BROADER CENSUS COVERAGE THROUGH ACCURATE ADDRESSES

The Census Bureau should consider comparing the MAF against the annual housing unit estimates in multiple geographic areas to help determine whether the results of address-list building to date appear reasonable. Further, the bureau should consider matching current administrative records to the MAF, since this provides the ability to both assess MAF quality and directly validate and improve the MAF by identifying and potentially adding missing addresses. Completing these operations quickly could provide the opportunity to add missing addresses to its questionnaire mailing list.

While it is late in the process to affect the initial mailout/mailback list created this month, a supplemental mailing list for housing units including results from Group Quarters Validation will be created in December. This supplemental address file and the address file for the targeted replacement questionnaire, which will be mailed in early April to

certain non-responding households, provide opportunities to incorporate missed addresses.

We recognize that this approach is not without risk. The bureau would have to deal with ungeocoded and duplicate addresses, which could be handled similarly to the approach used in the *Be Counted* program, but would increase the workload. Census would have to evaluate whether the increased workload could be accomplished without jeopardizing its existing operations. Given the late date, we anticipate that the Census Bureau may be reluctant to consider these steps. However, there are strong reasons to explore these approaches, and we would recommend that the bureau give them serious consideration.

If the bureau determines that incorporating missed addresses would be too burdensome at this stage of the decennial, there would still be benefits to identifying areas where addresses are missing. This includes alerting subsequent field operations, on a targeted basis, of the high potential for an inaccurate list and the need for increased vigilance in address list update and enumeration activities. This would inform Census managers of the need for emphasis in these areas.

The importance of the Master Address File cannot be overstated for this decade or the next, nor can the challenges faced by the bureau in achieving a high-quality address list for the census. Our numerous observations of address canvassing throughout the decade reinforce the difficult and error-prone nature of the task. Twice in this past decade our evaluations have resulted in recommendations that Census reassess the desirability of conducting this massive end-of-decade operation and consider whether alternative, more effective strategies for developing the address list are feasible.

I would also like to point out that many of the areas I have discussed, including use of administrative records, are relevant to early planning for the 2020 census, and we hope that the bureau will use its experiences with Census 2010 to inform its decision-making for 2020. As we look ahead to 2020, Congress may want to work with the bureau to consider developing more cost-effective alternatives to 100-percent address canvassing.

Mr. Chairman, this concludes my prepared statement. I would be pleased to respond to any questions that you or any other Members of the Subcommittee may have at this time.

**Office of Inspector General Reports/Testimony on the
Decennial Census, 2000 through October 2009**

*Documents pertaining to address files and canvassing
are highlighted in bold italics.*

(Reports/testimony are available in the OIG Census Reading Room at
http://www.oig.doc.gov/oig/reports/census_reading_room/index.html)

2009

- ***The 2010 Census: Update of Key Decennial Operations***, testimony before the Senate Committee on Homeland Security and Governmental Affairs, Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security, October 7, 2009.
- *The 2010 Census and Integrated Communications Campaign*, testimony before the House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, September 22, 2009.
- ***2010 Census: First Quarterly Report to Congress***, August 7, 2009 (OIG-19791-1).
- ***Memorandum to Director, Bureau of the Census, with Recommendations from 2010 Census: First Quarterly Report to Congress***, August 7, 2009 (OIG-19791-1).
- ***Problems Encountered in the Large Block Operation Underscore the Need for Better Contingency Plans***, August 7, 2009 (OIG-19171-02).
- ***Observations and Address Listers' Reports Provide Serious Indications That Important Address Canvassing Procedures Are Not Being Followed***, May 4, 2009 (OIG-19636-01).
- *Census 2010: Revised Field Data Collection Automation Contract Incorporated OIG Recommendations, But Concerns Remain Over Fee Awarded During Negotiations*, March 3, 2009 (CAR 18702).
- ***Census 2010: Delays in Address Canvassing Software Development and Testing, Help Desk Planning, and Field Office Deployment Have Increased Operational Risk***, February 12, 2009 (OIG-19171).

APPENDIX

2008

- ***Census 2010: Dress Rehearsal of Address Canvassing Revealed Persistent Deficiencies in Approach to Updating the Master Address File***, October 17, 2008 (OSE-18599).
- ***FY 2008 FISMA Assessment of the Field Data Collection Automation System***, September 29, 2008 (OSE-19164).
- ***Census 2010 Decennial: Census Should Further Refine Its Cost Estimate for Fingerprinting Temporary Staff***, August 8, 2008 (OIG-19058-1).
- ***Census 2010 Decennial: OIG Reviews Through the Decade Identify Significant Problems in Key Operations***, June 4, 2008 (OIG-19217).

2007

- ***Follow-up Review of the Workers' Compensation Program at the Census Bureau Reveals Limited Efforts to Address Previous OIG Recommendations***, September 28, 2007 (IPE-18592)
- ***Census 2010: Key Challenges to Enumerating American Indian Reservations Unresolved by 2006 Census Test***, September 19, 2007 (OSE-18027).

2006

- ***Enumerating Group Quarters Continues to Pose Challenges***, September 29, 2006 (OIPE-18046-09-06).
- ***Valuable Learning Opportunities Were Missed in the 2006 Test of Address Canvassing***, March 31, 2006 (OIG-17524-03-06).

2005

- ***FDCA Program for 2010 Census Is Progressing, but Key Management and Acquisition Activities Need to be Completed***, August 4, 2005 (OSE-17368)

2004

- ***Improving Our Measure of America: What the 2004 Census Test Can Teach Us in Planning for the 2010 Decennial Census***, September 30, 2004 (OIG-16949-1).

APPENDIX

2003

- ***MAF/TIGER Redesign Project Needs Management Improvements to Meet Its Decennial Goals and Cost Objective***, September 30, 2003 (OSE-15725).

2002

- ***Selected Aspects of Census 2000 Accuracy and Coverage Evaluation Need Improvements Before 2010***, March 2002 (IG-14226).
- ***Improving Our Measure of America: What Census 2000 Can Teach Us in Planning for 2010***, March 31, 2002 (OIG-14431).

2001

- ***Actions to Address the Impact on the Accuracy and Coverage Evaluation of Suspected Duplicate Persons in the 2000 Decennial Census***, March 29, 2001 (ESA-OSE-13812).

2000

- ***Re-enumeration at Three Local Census Offices in Florida: Hialeah, Broward South, and Homestead***, September 29, 2000 (ESA-13215).
- ***A Better Strategy Is Needed for Managing the Nation's Master Address File***, September 2000 (ESA-OSE-12065).
- ***Unjustified Decennial Census Unemployment Compensation Claims Should Be Reduced Because Terminations for Cause Were Mostly Well Documented***, September 29, 2000 (ESA-IPE-13212).
- ***Telephone Questionnaire Assistance Contract Needs Administration and Surveillance Plan***, August 8, 2000 (ESA-OSE-12376).
- ***Decennial Census Warehousing Operations Needed Attention***, July 28, 2000 (ESA-DEN-11950).
- ***PAMS/ADAMS Should Provide Adequate Support for the Decennial Census, but Software Practices Need Improvement***, March 2000 (ESA-ESD-11684).
- ***Accountable Property Used for the Decennial Census Needs Improved Controls; Bankcard Program Is Well Managed***, March 2000 (ESA-ESD-11781).