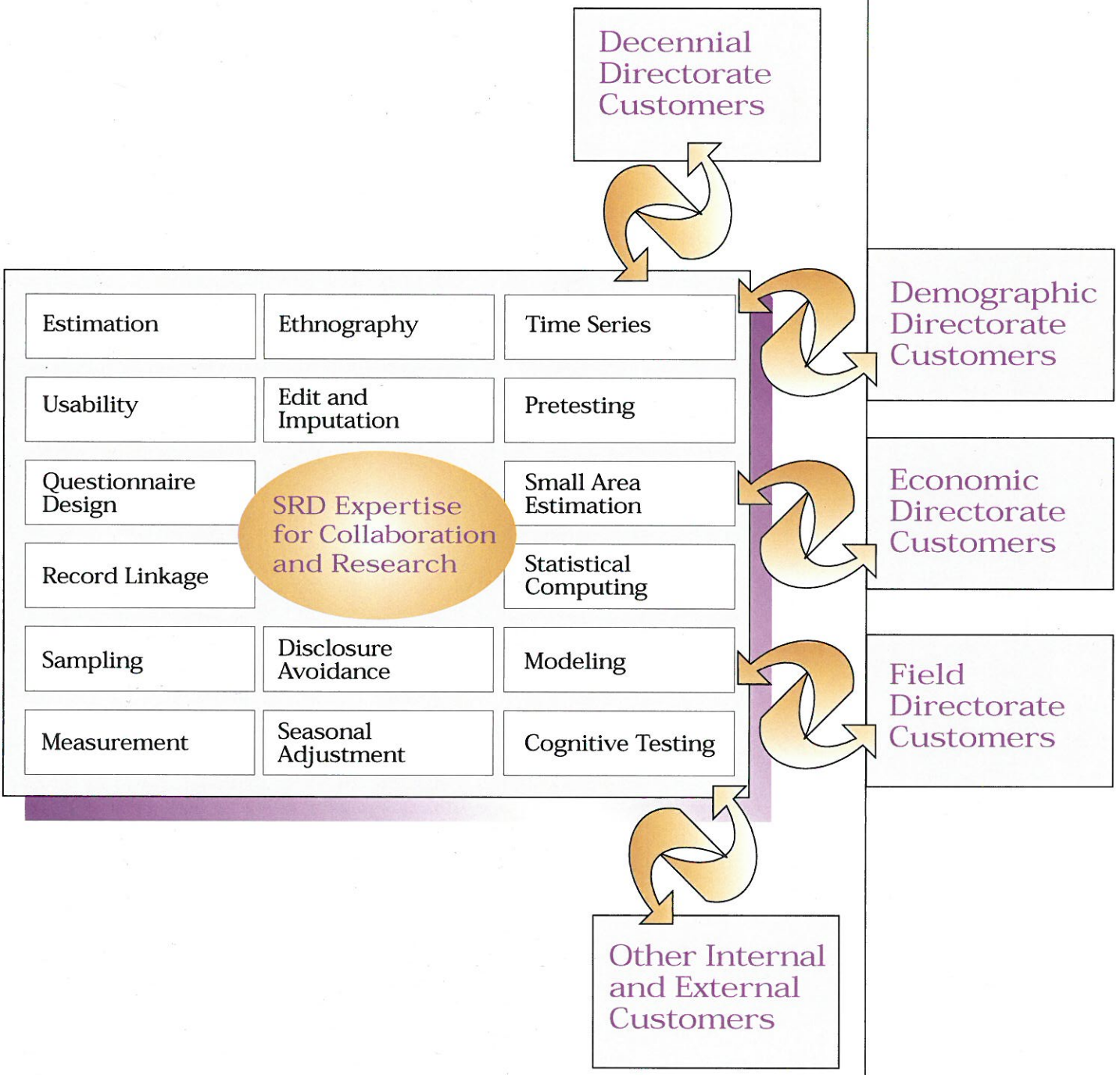
Annual Report *of the* Statistical Research Division

Fiscal Year 2006



U S C E N S U S B U R E A U

Helping You Make Informed Decisions

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU

Since August 1, 1933...

"...As the major figures from the American Statistical Association (ASA), Social Science Research Council, and new Roosevelt academic advisors discussed the statistical needs of the nation in the spring of 1933, it became clear that the new programs—in particular the National Recovery Administration—would require substantial amounts of data and coordination among statistical programs. Thus in June of 1933, the ASA and the Social Science Research Council officially created the Committee on Government Statistics and Information Services (COGSIS) to serve the statistical needs of the Agriculture, Commerce, Labor, and Interior departments...COGSIS set...goals in the field of federal statistics...(It) wanted new statistical programs—for example, to measure unemployment and address the needs of the unemployed...(It) wanted a coordinating agency to oversee all statistical programs, and (it) wanted to see statistical research and experimentation organized within the federal government... In August 1933 Stuart A. Rice, President of the ASA and acting chair of COGSIS,...(became) assistant director of the (Census) Bureau. Joseph Hill (who had been at the Census Bureau since 1900 and who provided the concepts and early theory for what is now the methodology for apportioning the seats in the U.S. House of Representatives)...became the head of the new Division of Statistical Research...Hill could use his considerable expertise to achieve (a) COGSIS goal: the creation of a research arm within the Bureau..."

Source: Anderson, M. (1988), *The American Census: A Social History*, New Haven: Yale University Press.

Among others and since August 1, 1933, the Statistical Research Division has been a key catalyst for improvements in census taking and sample survey methodology through research at the U.S. Census Bureau. The introduction of major themes for some of this methodological research and development where staff of the Statistical Research Division[1] played significant roles began roughly as noted—

- Early Years (1933–1960s): *sampling (measurement of unemployment and 1940 census); probability sampling theory; nonsampling error research; computing; data capture.*
- 1960s–1980s: *self-enumeration; social and behavioral sciences (questionnaire design, measurement error, interviewer selection and training, nonresponse, etc.); undercount measurement, especially at small levels of geography; time series and seasonal adjustment.*
- 1980s–Early 1990s: *undercount measurement and adjustment; ethnography; record linkage; confidentiality and disclosure avoidance.*
- Mid 1990s–Present: *small area estimation; missing data and imputation; usability (human-computer interaction); linguistics, languages, and translations.*

[1] The Research Center for Measurement Methods joined the Statistical Research Division in 1980. In addition to a strong interest in sampling and estimation methodology, research largely carried out by mathematical statisticians, the division also has a long tradition of nonsampling error research, largely led by social scientists. Until the late 1970s, research in this domain (e.g., questionnaire design, measurement error, interviewer selection and training, nonresponse, etc.) was carried out in the division's Response Research Staff. Around 1979 this staff split off from the division and became the Center for Human Factors Research. The new center underwent two name changes—first, to the Center for Social Science Research, in 1980, and then, in 1983, to the Center for Survey Methods Research before rejoining the division in 1994.

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We help the Census Bureau improve its processes and products. For fiscal year 2006, this report is an accounting of our work and our results.

Statistical Research Division

Highlights of What We Did...

As a technical resource for the Census Bureau, each researcher in our division is asked to do three things: *collaboration/consulting*, *research*, and *professional activities and development*. We serve as members on teams for a variety of projects and/or subprojects.

Highlights of a selected sampling of the many activities and results in which Statistical Research Division staff members made contributions during FY 2006 follow, and more details are provided within subsequent pages of this report:

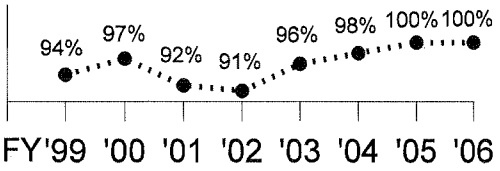
- acquired, installed, and configured (jointly with the IT Directorate and the Longitudinal Employer-Household Dynamics Staff) a 64 processor, 320 gigabyte memory, 70 terabyte disk storage SGI ALTIX Bx2 (research1.srd.census.gov) as the core of a high performance research computing environment that is available to researchers throughout the Census Bureau, enabling computationally intensive statistical methods for missing data, record linkage, modeling of large data sets, and data mining.
- further developed the technique of adding noise to the underlying microdata as an alternative to cell suppression for protecting economic tabular data.
- revised the program (provisionally named X-13A-S) that combines X-12-ARIMA with the leading fully model-based seasonal adjustment program, SEATS (from the Bank of Spain) with enhancements: revision error measures, signal extraction diagnostics, improved standard error measures for growth rates, better handling of stable seasonable regressors, and enhanced diagnostic output.
- completed preliminary evaluation of variances and biases using administrative records as controls for the American Community Survey (ACS).
- expanded and completed a simulation study of ACS group quarters weighting alternatives.
- continued research and developed a new approach for estimating low-valued exports that is consistent with the suspected behavior of export filers, and that better explains the discrepancy between current estimates and suspected levels.
- added a new feature in *BigMatch* to allow matching against a series of files in one run, in response to a request by Decennial for matching 500 District Office files in one massive run (300 million X 300 million = 10^{17} pairs).
- completed the analysis of the imputation of property insurance for the ACS and supported LEHD by processing the 1996 Wealth Module data collected in SIPP.
- hosted (summer 2006) ASA/NSF/Census Bureau Research Fellow Jun Shao (U. of Wisconsin), who developed and presented a short course (8 lectures) on Analysis of Data with Missing Values for 35 staff from various divisions and began collaborations on several related problems.
- completed development/implementation/testing of score functions for prioritizing manual renew of trade statistics data.
- conducted usability tests and evaluations for 10 Census Bureau projects [e.g., the 2006 Nonresponse Follow-up instrument, ACS maps on American FactFinder, Census Coverage Measurement Person Interview, Census Bureau Intranet site, alternative designs for an Internet form for census data collection, the Automated Export System (AES) Web site]; completed accessibility evaluation of 13 Web sites (e.g., several computer-based training applications, the Movable Type Web Log application).
- coordinated or conducted 32 pretesting activities across the decennial, demographic, and economic areas under the OMB generic clearance.
- organized and sponsored scholarly exchanges and seminars by five leading researchers who reported on their research regarding interviewer-respondent interactions.
- completed the final report on cognitive testing of the translation of ACS CAPI materials in multiple languages; completed the first round of cognitive testing of the Decennial bilingual (Spanish-English) swimlane questionnaire.

How Did We Do...

For an eighth year, we received feedback from our sponsors. Near the end of fiscal year 2006, our efforts on forty-eight of our program (Decennial, Demographic, Economic, External) sponsored projects/subprojects with substantial activity and progress and sponsor feedback (Appendix A) were measured by use of a Project Performance Measurement Questionnaire (Appendix B). Responses to all forty-eight questionnaires were obtained with the following results (The graph associated with each measure shows the performance measure over the last eight fiscal years):

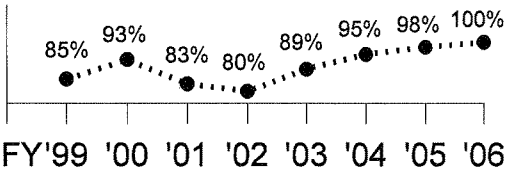
Measure 1. Overall, Work Met Expectations

Percent of FY2006 Program Sponsored Projects/Subprojects where sponsors reported that overall work met their expectations (agree or strongly agree) (48 out of 48) 100%



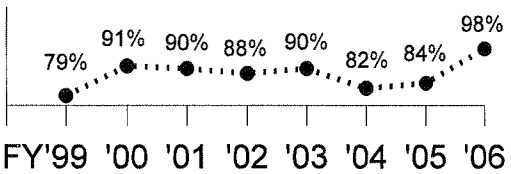
Measure 2. Established Major Deadlines Met

Percent of FY2006 Program Sponsored Projects/Subprojects where sponsors reported that all established major deadlines were met (36 out of 36 responses) 100%



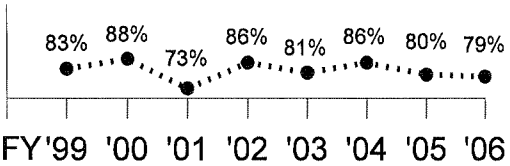
Measure 3a. At Least One Improved Method, Technique Developed, Solution, or New Insight

Percent of FY2006 Program Sponsored Projects/Subprojects reporting at least one improved method, technique developed, solution, or new insight (47 out of 48 responses) 98%



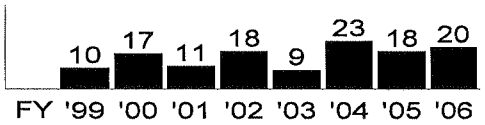
Measure 3b. Plans for Implementation

Of these FY2006 Program Sponsored Projects/Subprojects reporting at least one improved method, technique developed, solution, or new insight, the percent with plans for implementation (37 out of 47 responses) 79%



Measure 4. Predict Cost Efficiencies

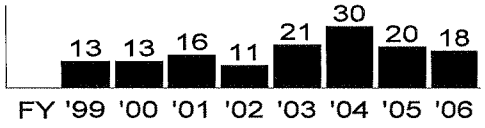
Number of FY2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency" 20



From Section 3 of this ANNUAL REPORT, we also have:

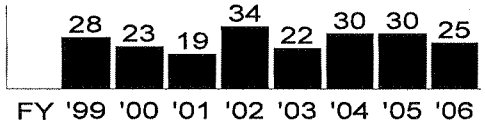
Measure 5. Journal Articles, Publications

Number of peer reviewed journal publications documenting research that appeared (15) or were accepted (3) in FY2006 . 18



Measure 6. Proceedings, Publications

Number of proceedings publications documenting research that appeared in FY2006 25



Each completed questionnaire and associated details are shared with appropriate staff to help improve our future efforts.

TABLE OF CONTENTS

1. COLLABORATION

1.1 – 1.2 DECENNIAL TOPICS (Decennial Projects 5210601 and 5210602)

A. Census Questionnaire Design Features

The project represents ongoing research using the behavior coding method to analyze interviewer/respondent interactions to evaluate the decennial Nonresponse Follow-up (NRFU) questions in the 2006 Census Test (the 2004 NRFU was also evaluated using this method). The redesign of the 2006 instrument was informed by the 2004 NRFU behavior coding results, and included a shift to topic-based data collection, instead of the person-based method used in 2004 which encouraged inappropriate interviewer behavior (e.g., omitting questions). The behavior coding of the 2006 instrument will evaluate the effectiveness of the topic-based approach, as well as continue to evaluate the questions being used to collect data from mail nonrespondents. The 2006 NRFU behavior coding data will be collected from the Austin, Texas test site and both the English and Spanish language instruments will be evaluated.

Efforts during FY 2006 involved consulting on the content of survey letters and evaluating questions used in two coverage and nonresponse follow-up operations. First, staff consulted with the Senior Survey Methodologist in developing proposed wording for the survey letters and envelopes containing "due date" messages to encourage early returns for census forms. Among other changes to the mail questionnaire, these messages were pretested in the "Person 1" Field Test and raised response rates by two percent.

Second, staff reported results from an evaluation, using behavior coding, of the interviewer-administered Coverage Research Follow-Up to the 2004 Census Test. This study analyzed interviewer and respondent interactions and discovered interviewers asked questions correctly (as-worded) only 51 percent of the time; they often truncated lengthy, compound questions and left off redundant reference periods. Response issues were far less prevalent (i.e., acceptable responses were generated 80% of the time). These results were used to revise questions in a later iteration of the instrument, now titled the Coverage Follow-Up (CFU).

Third, a bilingual behavior coding study is underway to evaluate questions in the interviewer-administered Nonresponse Follow-Up (NRFU) to the 2006 Census Test. A redesign of the 2006 NRFU instrument was informed by a previous evaluation of the 2004 NRFU (using the same methodology). Changes to the 2006 instrument included a shift to topic-based data collection versus the person-based method used in 2004, which encouraged inappropriate interviewer behavior (e.g., omitting questions). The behavior coding of the 2006 instrument intends to evaluate the effectiveness of the topic-based approach in both Spanish- and English-language versions of the instrument, as well as continue to evaluate the question wording used to collect data from mail nonrespondents. Data from the Austin, Texas test site have been collected. Results from the project are pending; staff members are currently analyzing the data.

Finally, staff published research results offering explanations for extremely low percentages (average of 37%) of "ideal" question-asking behavior (i.e., where interviewers read questions exactly as worded) for the interviewer-administered questionnaire using a small, hand-held computer. We conclude that lengthy questions–imported into an automated instrument directly from a paper questionnaire–perform poorly on the small screen afforded by the hand-held computer. Suggestions were made that more fully exploit the automated technology to avoid issues like lengthy questions (e.g., unfolding a long question into one short, main question with one or two follow-up questions).

Staff: Ashley Landreth (x38457), Jenny Hunter Childs, Patricia Goerman, Dawn Norris, Diana Simmons, Eleanor Gerber

B. Short Form Questionnaire Content Other Than Race and Ethnicity

This project involves participation in the 2010 Census Content Planning Group and content-related subgroups other than those focusing on race and ethnicity. It also involves consultation and testing on questionnaire content for the 2010 Census and tests leading up to it.

During FY 2006, staff participated in several planning groups and subgroups, including the 2010 Census Content Planning Group, Content Integrated Product Team, Housing Unit Operational Integration Team, NRFU Subteam, and Enumeration of Transitory Locations subteam. Staff also participated in the Mode Consistency Working Group activities and took primary responsibility for writing Section 3 of the report, as well as the bibliography.

Staff also conducted several rounds of cognitive interviewing on the 2006 NRFU instrument. First, cognitive testing was conducted using a paper script to evaluate respondent problems. The research showed that respondents tended not to read the residence rules flashcard they were handed while answering the person count question. Several respondents made the critical error of not including themselves on the household roster. In the overcount question, some respondents included houseguests who had not previously been listed and others reported nonrelatives and people

staying temporarily, who had already been listed on the roster. The renter/owner question was too complex, and respondents asked for it to be repeated. There is the potential for respondents to misreport in the relationship question because their definition of "related" in the initial question ("Is this person related to Person 1?") was different from the Census Bureau's definition.

A second round of testing was done using an automated version of the NRFU instrument. The results of this round of testing showed that, once again, respondents tended not to read the Residence Rules flashcard, sometimes expressing uncertainty about whether or not they should use it. A more detailed and iterative set of Residence Rules questions would eliminate the need for this flashcard. The overcount question tended to produce errors because it had no specific reference date. Among respondents who identified themselves as of Hispanic, Latino or Spanish origin (and even for those who did not), the statement "for this census, Hispanic origins are not races" was difficult to comprehend, either because respondents misheard the question, or they could not understand why these origins were not considered races.

Based on the results of the first two rounds of testing, revisions were made the NRFU instrument, which were tested in a third round of interviews. The research showed that the undercount probe designed to capture babies, foster children, other relatives, and roommates worked well to add missing people to the roster, as did the undercount probe to add transients that have no other permanent place to live. The undercount probe to capture people who frequently stay at a household but do not live there had multiple interpretations and did not work well. The overcount question worked to correctly place college students when the sample address was the parents' home, but not when the interview was conducted at the students' off-campus college address. The revised version of the relationship question worked well to eliminate problems of inverted relationships (that is, reporting "mother" rather than "daughter"). Many of the revisions are being incorporated into the 2008 NRFU instrument.

Staff: Terry DeMaio (x34894), Jen Beck, George Carter, Jenny Hunter Childs, Eleanor Gerber, Laurie Schwede, Manuel de la Puente, Lorraine Randall, Dawn Norris, Kristen Hanoka, Beth Nichols

C. Development of Race and Ethnicity Questions

Staff will participate in planning and pretesting alternative versions of the race and ethnicity questions used in the Decennial Census. We will develop proposals for cognitive testing of new question formats in conjunction with decennial staff, and lead or engage in cognitive research as needed.

During FY 2006, staff efforts focused on selection of race and ethnicity questions for Dress Rehearsal content, and consulting on mode consistency guidelines for these questions in all modes of administration. We 1) Consulted on the choice of questions from the 2005 Content Test; 2) Summarized cognitive findings relating to the choice of Dress Rehearsal content; 3) Made recommendations about branching strategies for race and Hispanic origin questions for in-person and telephone administration; 4) Made recommendations about the use and layout of flashcards for these questions for in-person administration; and 5) Developed mode consistency guidelines for the application of these questions in different modes.

Staff: Eleanor Gerber (x34890)

1.3 LANGUAGE PLANNING AND DEVELOPMENT (Decennial Project 5210603)

Staff members participate in the inter-divisional Decennial Task Force, or language team, which focuses on developing and planning the Language Program for the 2010 Census, pre-census tests, and the Dress Rehearsal. In addition, staff members in our division provide consultation and technical support in the design, development and conduct of research for Decennial language-related projects.

During FY 2006, we provided consultation and technical support in the design, development and conduct of research for Decennial language-related projects. Staff worked as researchers and technical managers on a project with a contractor (RTI International). The first round of the research involved the pretesting of the Spanish wording contained in the 2005 Census Test version of the Decennial bilingual "skiplane" questionnaire. We worked with RTI to create the research methodology, recruitment plans, cognitive interview protocols and other documents related to the study. In addition, staff traveled to Los Angeles to conduct a portion of the cognitive interviews for the project.

Major findings reported by us and RTI staff included the fact that a number of the Spanish-language terms and questions on the bilingual questionnaire were not working well with respondents. We therefore made recommendations for changes to the Spanish wording and to the layout of the questionnaire.

In addition to working with the Decennial Management Division (DMD) on this project, staff attended a Senior Executive Staff level briefing regarding the results of the 2005 Census Test of the bilingual questionnaire. At that meeting, we provided comments and insights into possible reasons for which segments of the 2005 questionnaire performed poorly with Spanish speakers in the field test. Finally, we worked with DMD to plan for a 2007 Special Census

Test which will be a large scale test of two different versions of the bilingual questionnaire. Staff also worked on planning for a second round of cognitive testing of the bilingual questionnaire, which will include testing of the two different versions of the form to be included in the 2007 Special Census Test.

Staff participated in the inter-divisional Decennial Task Force, or Language Team, which focused on developing and planning the Language Program for the 2010 Census and pre-census tests. We also participated in the newly created Dress Rehearsal Language Implementation Team, which is working on language related issues for the Dress Rehearsal and 2010. In addition, staff participated in a sub-team to plan for the Census Bilingual Form Study (CBIOS), the special 2007 Census Test designed to evaluate two different versions of the bilingual (Spanish/English) questionnaire.

Staff: Patti Goerman (x31819), Yuling Pan, Manuel de la Puente, Diana Simmons

1.4 DATA COLLECTION PLANNING AND DEVELOPMENT (Decennial Project 5310601)

A. 2005 Internet Design Team

This project focused on iterative prototyping and development of an Internet form for 2010. Our division's role in preparation for the 2005 National Census Test (NCT) was to provide usability and accessibility expertise in the design and evaluation of two versions of the 2005 Census Internet form, a person-based version and a topic-based version. While the 2005 NCT was in production, our role was to support the exploration of design concepts for future prototypes of a Census Internet form.

During FY 2006, staff assisted the Decennial Systems and Contracts Management Office (DSCMO) in planning and conducting a series of usability investigations into design alternatives for a future version of the Census Internet form. We recruited 18 participants, who completed two iterations of the online Census form–one using their own household data and a second using scripted household data that we provided. Each test participant used one of two alternative forms developed to reflect the design concepts of interest. Upon completion of the test sessions and analysis of the data, we issued a draft report, including video clips from the testing, for review by the 2005 NCT Internet team. We issued a final report with recommendations based on the test findings. For example, because many test participants had difficulties logging on to the online form, we recommended that the log-in process be designed to be a smoother process for the respondent. Findings from this exploration of design concepts were applied to the design of a Web-based instrument for the 2008 coverage follow-up.

Staff: Betty Murphy (x34858), Susan Ciochetto (DSCMO), Larry Malakhoff, Dave Coon (DMD), Suzanne Fratino, Jennifer Lins, Sarah Brady, Myron Smith (DSCMO), Ann Ross (POP), Amira Abdalla, Erica Olmsted-Hawala

B. 2006 Census Test Telephone Questionnaire Assistance (TQA) Implementation Team

This team will develop the specifications for the web-based telephone questionnaire assistance application in support of the 2006 Census Test.

During FY 2006, staff performed usability review of the Web-TQA application which is used by all call agents. A report *(Human-Computer Interaction Memorandum Series #98)* was sent to the programmers. The report contained recommendations for replacing Census jargon with simpler explanations for question categories. There were 1521 calls in English and 300 calls in Spanish. Most calls were about the meaning of the terms "ancestry," "Hispanic origin," and "race," followed by questions about people living or staying in a residence and what "mandatory" meant. The TQA operation has been closed out and this project is complete.

Staff: Larry Malakhoff (x33688)

C. Making Large Databases Accessible

This project will investigate the accessibility of tables with varying levels of column headers and row stubs which are generated from querying large databases such as the Longitudinal Employer-Household Dynamics Quarterly Workforce Indicators and the American FactFinder. This is a collaborative effort with Westat.

During FY 2006, work began on creating the forms and tables to be used in tasks for blind users to locate data in tables with varying numbers of columns and rows. We created debriefing questions to be used after each task. The forms and tables were checked with the JAWS screen reader to verify they were actually accessible and could be used in testing. Software was created to log the elapsed time a test participant was performing the task. Twenty test participants were recruited, mostly from Lighthouse for the Blind, and testing began in March. These individuals were paid $50, with an additional $25 for transportation and $25 for their escort, for a total of $100 for all the expenses per test participant.

The first four test participants used the JAWS screen reader to perform eight tasks with tables and forms of varying complexity. Preliminary testing revealed that there was time for additional tasks, so three tasks were added to the original plan which used

forms on the Census home page and American Fact Finder.

Staff completed computation of task times, and these data were sent to Westat for statistical analysis. Westat completed a draft report with initial findings showing that adding columns in a data table suggested that screen reader users worked more slowly, and that adding both rows and columns suggested screen reader users rated the task as more difficult. This work will continue into next quarter to address comments from the peer review and finalize the report.

Staff: Larry Malakhoff (x33688), Joyce Farmer, Sherae Daniel, Sid Schneider (Westat), Elaine Gerber and Corinne Kirchner (AFB)

D. Usability Testing of the 2006 Nonresponse Follow-Up (NRFU) Instrument

The purpose of this study is to provide iterative usability studies of 2006 Non-Response Follow-Up (NRFU) instrument to the development team. These studies will take the form of iterative usability studies and expert reviews. Staff conducted an expert review of the Assignment Management System (AMS) and the Crew Leader Assignment Management System (CLAMS) sections of the 2006 NRFU.

During FY 2006, staff ran through mock scenarios to test out the systems and noted where there were difficulties and usability violations. We discovered 17 short-term high-priority usability problems. We found 2 long-term usability problems. Short-term usability problems deal with the interface of the handheld device. Two examples of the short-term usability problems follow: Users could potentially experience problems with filtering as it was not possible to tell what type of filtering is currently "on." This could lead users to think that records just "go away." This occurs in both the main AMS and the CLAMS screen. Another finding was with the highlighting in spreadsheets where a user could highlight a row, several rows, or a cell–all of which could lead to user confusion. We recommended both short and long term fixes to the problems. For the filtering we recommended that the interface make it highly visible what filtering is "turned on." For the highlighting we recommended that, unless there are functions that apply to a single cell or multiple rows, only one row should be highlighted at a time, and that the current row should always be highlighted. We presented the results and recommendations to the client.

Staff: Erica Olmsted-Hawala (x34893), Juan Pablo Hourcade

1.5 SPECIAL PLACE/GROUP QUARTERS (GQ) PLANNING AND DEVELOPMENT (Decennial Project 5310608)

A. Decennial Census Group Quarters Research and Planning

The aim of this ongoing interdivisional working group is to improve group quarters listing and enumeration in the decade leading up to the 2010 Census. Two types of forms are being developed and tested. The first is the Other Living Quarters Validation Questionnaire (OLQVQ), which is used for initial listing and typing of group quarters (GQs). The second is the Individual Census Report, used to enumerate group quarter residents.

During FY 2006, we consulted with our sponsor in the Decennial Management Division (DMD) and our liaisons in the Population Division (POP) to develop the OLQVQ cognitive testing project. The six specific objectives of this project fell into two broad research aims: 1) cognitive interviewing to assess how well the flashcard and targeted sections of the OLQVQ worked, and 2) a debriefing and report on wider conceptual issues related to the newly revised GQ definitions POP has developed, and how respondents react to them and to some key concepts and terms. The sponsor provided detailed specifications on the types and subtypes of GQs to include in the sample; these specs determined the sections of the OLQVQ instrument that would be included in our cognitive testing: the initial 25 general screening questions; Tabs 1 (assisted living/skilled nursing); 2 (college housing); 3 (residential treatment centers and group homes for adults); 6 (hospitals); 7 (motels); 9 (residential treatment centers and group homes for juveniles); and 12 (shelters and soup kitchens). We developed a cognitive interviewing protocol and a customized debriefing questionnaire.

We identified and recruited GQ respondents from two sources: the Census 2000 GQ file for the DC area whenever possible, and the internet, when listings on particular GQ subtypes were not available in the Census 2000 file. We succeeded in conducting the full complement of 20 interviews, distributed across GQ types and subtypes exactly as requested by our sponsor: 1) 4 assisted living facilities (with and without skilled nursing); 2) 5 college residence hall/dorms (on-/off-campus, and owned, leased, or managed by the university); 3) 3 hospitals; 4) 4 shelters/motels (for transitional housing and longer stays); 5) 2 residential treatment centers and 6) 2 group homes (one of each in

the latter two categories for adults and one of each for juveniles).

We invited sponsors and colleagues from DMD, POP, and Field Division to observe interviews and they accompanied us on some of these in-person interviews at the GQs. We completed all 20 interviews, analyzed the data, and presented results in two phases. We sent an initial memo to DMD summarizing recommended changes to the OLQVQ and the flashcard, as well as a questionnaire and a flashcard marked up with the recommendations. In the subsequent four weeks, we drafted the final report, sent it for sponsor review, incorporated sponsor comments, and submitted the final version of the project report, "Results of Cognitive Testing of the Other Living Quarters Validation Questionnaire (OLQVQ)."

Staff: Laurie Schwede (x32611), George Carter, Andy Jocuns, Judi Norvell

B. Ethnographic Study of Hotels and Motels

We proposed and initiated an ethnographic exploratory research in hotels, motels, rooming and room and boarding houses and like establishments. Objectives of this study include estimating what proportion of these types of accommodations host residents long term (for a month or more) or cyclically, determining if establishments which encourage long term stays share any identifying characteristics, and understanding the situations of individuals and families which lead them to stay long term or cyclically in hotel/motel and like establishments.

During FY 2006, the report "People Who Live in Hotels, Motels, and Like Accommodations and Their Hosts's Domain" was issued in the Statistical Research Division *Research Report Series.* This project is complete.

Staff: Leslie Brownrigg (Retired in June 2006)

1.6 STATISTICAL DESIGN AND ESTIMATION (Decennial Project 5610602)

A. Decennial Editing and Imputation [See Projects 0351 and 1871 (B) General Research - Statistical Methodology]

B. Decennial Record Linkage [See Projects 0351 and 1871 (A), General Research - Statistical Computing Methodology]

C. Research on Item and Count Imputation for Implementation in Census 2010

Research and studies will be undertaken on item and count imputation for implementation in Census 2010.

During FY 2006, we obtained the new version 4.5 of CANCEIS, the Canadian Census imputation software, which was implemented in the context of Census 2000 and of the 2006 Census Test. The objective of this experiment is to test and validate the Nearest-neighbor Imputation Methodology (NIM) in CANCEIS for possible future implementation in Census Bureau edit/imputation applications. The focus is on the decision logic table (DLT) technology. We showed that it is feasible to translate the Census Bureau's edit/imputation specifications into DLTs that can be used directly as part of the inputs to CANCEIS. The DLTs enable the analysts to specify and manipulate sets of edits without having to modify the code of the edit/imputation program. This allows a faster turnaround when edits need to be modified and eliminates the risk of a programming error. By themselves, DLTs are an unambiguous and comprehensive form of documentation of the edit process. They fulfill the dual role of stating and documenting both the requirements and specifications of any edit process. We also expanded the DLT technology to define specification for the item imputation for the 2010 Census. We presented a plan to use the DLT technology to process the edits on the census short-form for the 2006 test. The Canadian off-the-shelf software CANCEIS has a built-in engine to verify the logic of the DLTs and to impute missing data by identifying donors who meet all the conditions specified through the DLTs.

Staff: Bor-Chung Chen (x34857), Yves Thibaudeau

D. Decennial Disclosure Avoidance

The purpose of this research is to develop disclosure avoidance methods to be used for Census Bureau publicly available decennial census and American Community Survey (ACS) data products. Emphasis will be placed on techniques to implement disclosure avoidance at the stage of processing. Disclosure research will be conducted on alternative methods to protect both tabular data and microdata from the decennial census and the ACS. Methods will be developed, tested, evaluated, and documented. We will also aid in the implementation of the methods.

During FY 2006, we developed and analyzed several models to synthesize ACS categorical data, with the goal of preserving the relationships between variables that appear on the usual ACS data tabulations and data requests. The difficulty of this task is increased by the added constraint that records need to be changed in order to provide protection from

disclosure. We also wrote, developed and coded a new method to test analytic validity based on propensity scores. This method is an addition to the set of tools for monitoring the utility of the ACS data following disclosure protection.

We designed and tested a data swapping program for ACS Group Quarters (GQ) data. Program testing included examining the swapping program output for various record matching criteria, swapping parameters, and disclosure risk selection methods. ACS GQ Test data were used to test both the swapping procedure and preliminary versions of the partially synthetic data method, as well as to facilitate a comparison of the two methods.

We have been working on an evaluation of the current swapping methodology used in the protection of the ACS household data. Part of this evaluation will be similar to the GQ test evaluation and will include analyses such as changes in sample frequency counts and estimates for various multi-way tables. We have also begun to investigate the possible use of combined year data in the selection of 'at risk' records. SAS programs have been written to perform the combined year selection procedure and the formal evaluation is still being developed.

We were asked to research a possible adjustment to the swapping program to correct some undesirable changes in the weighting scheme that occur as a result of swapping, and so tested the addition of a new collection mode variable to the ACS household data swapping key. We found that adding the new variable caused a significant reduction in the performance of the method and therefore recommend not adding the new variable. This work was completed and the results were presented to ACS staff.

Staff: Laura Zayatz (x34955), Paul Massell, Phil Steel, Sam Hawala, Jeremy Funk, Rolando Rodríguez

E. Census Unduplication Research

The Census Unduplication Research project began with the 2004 Census Test with the goal of improving the 2010 census unduplication. Initially, the unduplication was completed by the Decennial Statistical Studies Division. The next phase involves the unduplication of the 2006 Test Census by staff, which will incorporate Group Quarters being matched to housing unit data. Ultimately, staff will provide record linkage and modeling technology which will locate more duplicates in the census. Staff began this project in May of 2004.

During FY 2006, staff reviewed output from the matching of the Census 2000 Group Quarter (GQ) population in Alabama, Florida, Texas, and South Dakota against the housing unit (HU) population in those states. Staff also matched and reviewed output from the matching of both GQ and HU persons in Local Census Offices related to the 2006 Census Test against HU persons in several states. Staff performed a nationwide *BigMatch* matching of individual persons across Census IDs on the data from the 2000 Census. This required us to develop new software to handle the very complex processing of the nationwide *Bigmatch* matching. The new software can run multiple copies of *BigMatch* simultaneously to take advantage of the parallel processing capabilities of SRD's new SGI Altrix 3700BX2 computer. The matching created both GQ person links (linked pairs where one person is from a GQ and one person is from a HU) and HU person links (linked pairs where both persons are from HUs). An initial exploratory examination of the results of the national matching suggests that the most serious problems with coincidental matches for both GQ and HU person links outside the state are concentrated in the most common last names and the most common Hispanic last names. For HU person links inside the state but outside the county, the most serious problems with coincidental matches appear to be concentrated in the most common Hispanic last names.

Staff reviewed drafts of the three main specifications for the Duplicate Person Identification (DPI) process in the 2006 Census Test. All three specifications have been released as signed memoranda. The first specification outlines the DPI process, the second documents the computer matching blocking passes and parameters, and the third documents requirements for modeling of the person links produced by computer person matching. The last two specifications also cover the analogous procedures in the Census Coverage Measurement computer person matching. Staff helped review the output from the 2006 Census Test Duplicate Person Identification system and assisted in setting cutoffs for potential matches based on that review.

Staff: Michael Ikeda (x31756), Ned Porter

1.7 COVERAGE MEASUREMENT PLANNING AND DEVELOPMENT (Decennial Projects 5610603)

A. Coverage Measurement Research

Conduct research on model-based small area estimation of census coverage. Consult and collaborate on modeling coverage measurement.

During FY 2006, staff prepared a detailed report for the Decennial Statistical Studies Division (DSSD) memo series that documents the completed work on evaluating small area synthetic estimates of census coverage using a random effects model. We demonstrate, using estimates of variance components

and alternative coverage estimates of Local Census Offices, that the inclusion of small area random effects can add additional information to small area estimates of coverage. By completing the project, we have also demonstrated the feasibility of using likelihood methods adjusted for the sample design with Monte Carlo Markov Chain methods of estimation for this project. DSSD has requested that research and collaboration on the use of random effects models to evaluate 2010 census synthetic estimates of coverage be continued and be integrated with other work on logistic modeling of census coverage.

Staff: Don Malec (x31718), Jerry Maples

B. Accuracy of Coverage Measurement

2010 Census Coverage Measurement Research conducts the research necessary to develop methodology for evaluating the coverage of the 2010 Census. This includes planning, designing, and conducting the research, as well as analyzing and synthesizing the results to evaluate their accuracy and quality. The focus is on the design of the census coverage measurement survey and estimation of components of coverage error with secondary emphasis on the estimation of net coverage error. The estimation of overcount and undercount separately has not been done for previous censuses because of the difficulty of obtaining adequate data for unbiased estimates. The first attempt to implement the new methodology is in the 2006 Census Test.

During FY 2006, staff provided technical expertise and experience in the planning and implementation of coverage measurement research for the 2010 Census. Staff served on three teams formed to plan and implement census coverage measurement research for the 2010 Census in the 2006 Census Test, the 2003 Dress Rehearsal, and with data from the Accuracy and Coverage Evaluation Survey Revision II and Census 2000. Staff contributed technical expertise on the methodology for measuring and estimating coverage error components. Also, staff gave a presentation to the National Academy of Sciences Panel on Coverage Measurement Estimation.

Staff: Mary Mulry (x31759)

C. Questionnaire Wording and Automation Team

The purpose of this project is to design the coverage measurement survey instruments for the 2010 Census. These instruments will gather enough data to measure both person and household coverage of the 2010 Census. In preparation for 2010, there will be a 2006 Test of the coverage measurement operation in specific sites in conjunction with the 2006 Census Test. For 2006, there will be an automated person interview (PI) collecting an independent roster of people living at pre-selected sample addresses in the sites and their residency. There will also be a paper-based person follow-up questionnaire which collects additional residency information about some people collected in the census or the independent roster, but for whom we did not collect enough residency information to determine where they should have been counted for the census. Both these instruments will be used to measure person coverage. Our immediate goals are to create and test these two instruments given requirements from other teams working on coverage measurement planning. This team is further tasked with developing the independent housing unit listing booklet, and housing unit follow-up forms in order to measure housing unit coverage in 2008/2010.

During FY 2006, the 2006 Census Test started. We chaired the Questionnaire Wording and Automation Team for the Census Coverage Measurement (CCM) operation. Most notably in 2006, our team finished testing the Person Interview (PI) instrument [staff of the Decennial Statistical Studies Division (DSSD) led this effort], wrote training for the instrument, and fielded the Blaise PI instrument in July 2006 for the 2006 Census Test. We summarized the methodology and findings for the two rounds of usability testing and the two expert reviews and documented in *Human-Computer Interaction #84 Report*, "A Usability Evaluation of the Census Coverage Measurement Instrument." Research ideas generated from the usability studies and reviews included the recommendation to add a numeric pad to the laptop computer to increase the accuracy of keyed numeric entries (numeric entries are the standard response choices mechanism for the Blaise programming language) or to use mnemonics instead of numbers for entering response choices (e.g., enter "Y" and "N" instead of "1" and "2" for yes/no answers).

We began working on the evaluations for the 2006 PI in preparation for the 2008 Dress Rehearsal. In July we led a group of nine headquarters staff into the field to conduct respondent debriefings at the doorstep of actual PI respondents. The "respondent debriefings" were a new methodology for the Census Bureau staff. The goal of the respondent debriefings was to determine if the PI interview collected enough information (and the right information) to code the residence status of each individual correctly. The nine staff members accompanied interviewers into the field (both in Austin, Texas and in the South Dakota Indian Reservation Site) and observed interviews. We tape recorded the interviews (with the respondents' permission) for behavior-coding

evaluation. In addition, if during the interview we heard a comment or saw a gesture indicating there might be more to the living situation story than reported during the interview, we asked a few questions at the end of the interview, probing for more information that might help determine a person's true residence status on Census Day. In total, the nine staff members observed 169 interviews with occupied housing units and conducted 49 respondent debriefings. We tape recorded 154 of these interviews with respondent permission. We observed interviews in households ranging from single-person to 10-person. After these trips, a short-term accomplishment was a list of changes to the PI for the 2008 Dress Rehearsal. Analysis of the data comparing our respondent debriefing notes against how the PI instrument recorded the residence status will occur next fiscal year as will behavior coding results. Two memoranda (DSSD memorandum 2006-D7-10 and 2006-D7-11) thus far have been written documenting the methodology and the recommended changes. The respondent debriefing research is one mechanism for evaluating the questionnaires as documented in the Census Day Residency Evaluation *(DSSD Evaluation 5: Evaluation of Census Day Residence Determination, B-01 Revised).* Results of this research will be reported in this evaluation. The evaluation study plan was finalized this fiscal year.
We began working on the behavior coding of the PI. Results from this testing, along with the other evaluations mentioned above will help determine the questionnaire for 2008 and 2010.

Within the Questionnaire Wording and Automation Team, staff tested, created and finalized the Person Follow-up form for the Census Coverage Measurement (CCM). This included completing 24 cognitive interviews for the draft paper person follow-up (PFU) questionnaire and managing a contract for cognitive testing of the form by an external, independent group (Westat). Westat staff completed 30 PFU cognitive interviews. Westat submitted a final report and made a presentation to a census coverage measurement audience. Highlights included modifying our Group Quarters (CQ) flashcard to incorporate additional GQ examples and the use of this flashcard for all "type of place" questions. This change will also affect our 2008 PI design. The "dates" approach used in the PFU seemed feasible, although we could not conclude whether the "dates" approach or the "cycling" approach would yield more accurate and complete data with which to code residence status. We also conducted a hot house test of the form to look for usability issues. The form was translated into Spanish. Documented results of the cognitive testing and the hothouse test are found in DSSD memorandum 2006-D7-07 and 2006-D7-06. PFU interviewer training was reviewed.

Independent of CCM, staff continued working on a split panel test for the 2006 Questionnaire Design Experimental Research Survey (QDERS) comparing the "dates approach" to the "cycling approach." Results of these data will help in the residence status comparisons between the PI and PFU methods. See the QDERS project [Projects 0351 and 1871 (C.1) General Research–Survey Methodology] for further detail.

We led efforts to create the 2008 Independent Listing Booklet for the Census Coverage Measurement within the Dress Rehearsal and began to create the Housing Unit follow-up initial and final housing unit forms. All these forms will be paper.

Staff: Beth Nichols (x31724), Jenny Hunter Childs, Betty Murphy, Erica Olmsted-Hawala, Amira Abdalla, Joanne Pascale, Laurie Schwede

1.8 COVERAGE IMPROVEMENT PLANNING AND DEVELOPMENT (Decennial Projects 5610605)

A. Decennial Privacy Research

The purpose of this project is to serve on and assist the work of the Privacy Policy and Research Committee (PPRC), and to conduct research to assess public opinion on privacy-related issues, including the increased use of administrative records to assist Decennial Census enumeration.

During FY 2006, in addition to participating in the regular meetings and deliberations of the PPRC, staff reviewed and commented on several papers and reports, including the draft PPRC document "An Analysis of the Census Bureau's Privacy Principle on Respectful Treatment of Respondents and Institutional Review Board Considerations;" an article in the *Bulletin de Methodologie Sociologique* on "An Innovative Technique for Asking Sensitive Questions: The Three-Card Method," as well as other related materials prepared by the article's Government Accountability Office staff authors; a Privacy Office "Strategic Initiative," including proposals for new actions arising from last year's "Privacy and Data Use Workshop;" and ACS and 2010 Census privacy-related research proposals, and proposals concerning internal and external communications programs.

Major research activities during most of the year concerned a project evaluating the implementation of the new "RIP" (Respondent Identification Policy) procedures in the 2004 SIPP panel. Staff authored two papers summarizing the results of this research. In these papers, we find a high level of RIP consent, a minimal impact of RIP on the ability to use dependent interviewing, significant associations between response to the RIP question and various

demographic characteristics (most notably, the presence of unrelated household members), other indicators of confidentiality concern, and noninterview status in the subsequent survey wave.

During the last part of FY 2006, staff involvement in this project has mostly had to do with the development of a research effort to assess issues related to completing and mailing back self-enumeration census questionnaires. This exploratory research will use focus group methods to surface issues and concerns that lead to nonresponse, particularly among minority sub-populations where mail-out/mail-back self-enumeration methods have traditionally been least successful, or are expected to be problematic in 2010. At the moment, the plan is to conduct 30 focus groups during the fall at various locations across the country; we will observe several of the groups.

Staff: Jeff Moore (x34975), Anna Chan, Eleanor Gerber, Ashley Landreth

B. Development of Questionnaires for Decennial Coverage Improvement

We will develop a set of related data collection instruments which will be used to resolve duplicates in the Decennial Census. The project will begin with a pretest, which we will participate in evaluating. We will participate with decennial staff in revision of the instruments for use by clerical personnel, development of training, and additional pretesting for the 2004 Test, or for other mid-decade tests, and for the 2010 Census.

During FY 2006, our efforts to assist in coverage improvement during this year include: 1) Consulting on the development of coverage questions for the decennial census; 2) Managing a contract to pretest these coverage questions and the Coverage Follow-Up instrument; 3) Revising a statement of work to change the scope of work for this contract; 4) Consulting on the development of cognitive interview protocols and behavior coding protocols; and 5) Attending meetings of the Residence Rules Working Group.

Staff: Eleanor Gerber (x34890)

C. Inter-divisional Decennial 2010 Working Groups on Residence Rules and Coverage Improvement

These overall inter-divisional working groups provide input to the Decennial Management Division (DMD) for planning successive operations, and test broadly related coverage research during the decade leading up to the 2010 Census. These groups receive proposals from various subgroups on: within-household coverage, residence rules, imputation, and unduplication.

During FY 2006, staff participated in meetings of the Coverage Improvement Planning Group. We proposed revisions to simplify the introduction and reword and reorder address questions and the question on household/individual response to the Census 2000 "Be Counted!" form. We drafted a summary of the group's proposed changes; served as the group's liaison with the Geography Division to obtain a response to the proposed changes to the address questions; and wrote and submitted a draft preliminary proposal for cognitive testing. Staff distributed this proposal to team members, presented it at a working group meeting, compiled members' responses, and communicated results to DMD. When another working group member proposed an alternative major restructuring of the form, our staff outlined the advantages and disadvantages of the two form design approaches for DMD. Team recommendations were subsequently submitted to DMD.

Staff suggested that the Decennial Statistical Studies Division (DSSD) expand its initial presentation on results of the 2005 Census Test on alternative residence rule approaches and alternative coverage questions to include results by strata (high non-white and Hispanic/low non-white and Hispanic). DSSD ran these tests and found some to be significant. These results were added to the final Executive-level presentation.

When new ideas for 2010 Census evaluations were requested, our staff proposed three: 1) qualitative research that two Regional Office Directors had requested to identify factors in undercounting American Indians and Hispanics, 2) exploratory research on immigrants and coverage, and 3) a quantitative study of GQ coverage with 2010 Census data to test the hypothesis that coverage errors increase as time elapses between Census Day and GQ enumeration day (ranging from April 3 to May 20).

Staff participated in meetings of the Residence Rule Working Group and did ad hoc consulting with a staff member of the Population Division. They participated actively in reviewing DSSD's 2005 Census Test panel results and deciding to support DSSD's recommendation that we change course for the 2008 Dress Rehearsal and 2010 Census and adopt the principle-based approach to presenting residence rules on the census form. Our staff members also reviewed the large commissioned NAS Residence Rules Panel report and weighed in on all of its recommendations, particularly those on the report's suggested statement of core residence principles (p.7): wording of the statement of the purpose of the census; revised definition of usual residence; new Alternate Residence Elsewhere (ARE) concept; proposal that

every HU & GQ person should have an ARE write-in; and the NAS recommendation that individual GQ resident response should be maximized. Our staff also considered the implications of other important issues, such as revising residence rules on which GQ types should allow UHE tabulation and on whether the UHE address on the ICR should be dropped altogether.

Staff: Laurie Schwede (x32611), Eleanor Gerber

1.9 AMERICAN COMMUNITY SURVEY (ACS) (Decennial Project 5385660)

A. ACS Questionnaire Design Measurement

This project provides technical and research support for the development and improvement of ACS data collection instruments used in all modes of data collection available in the ACS. Staff members serve on inter-divisional working groups, and provide technical support in the design and conduct of questionnaire design research for the ACS.

During FY 2006, the Decennial Statistical Studies Division (DSSD) requested us to lead several research efforts on projects involving navigational issues related to the ACS mailout questionnaire, topic-based CATI interviewing, motivational messages, additional mailings for nonresponders, and Spanish-language research. Detailed plans and schedules for the requested research were developed. Due to funding constraints, a few of the projects were not supported and work ceased. Research on the topic-based 100% items for CATI and CAPI instruments was conducted and reports distributed. Research on navigational issues related to a matrix format for the demographic items versus a sequential format was conducted.

Staff: Jennifer Rothgeb (x34968), Eleanor Gerber, Yuling Pan, Patti Goerman, Manuel de la Puente, Jen Beck, Ashley Landreth

B. ACS Labor Force Questions

The purpose of this project is to develop recommended question wording for inclusion in the ACS 2006 Content Test. Evaluation of the 2000 Decennial Census (of which the ACS questions are extracted) labor force questions indicate that responses to those questions produced lower employment estimates than the Current Population Survey (CPS). An Office of Management and Budget Interagency Subcommittee on ACS Labor Force Questions was created and charged with producing a research plan to develop test wording for the 2006 ACS content test.

During FY 2006 and based on results of the ACS Content Test, the recommended question wording (developed from the cognitive research) brought the estimates of employment and unemployment closer to the estimates obtained through the CPS. Therefore, the 2008 ACS will use this wording. The final report of the cognitive interview research will be finalized and reflect the final decisions made regarding the wording of the 2008 ACS.

Staff: Jennifer Rothgeb (x34968)

C. ACS Small Area Estimation Research – Tract Level Coverage and Variance Reduction Using Administrative Records

A proposed method using matched administrative records as tract level controls to reduce coverage error and variability will be evaluated.

During FY 2006, we completed preliminary evaluation of using administrative records as population controls of tract level estimates to reduce variance and mean squared error. Using census long-form data, along with short-form data as the gold standard, we have shown that the use of administrative records to form post-strata can reduce tract variance but its effect is washed-out due to the introduction of bias. The method we employ is free of residence definition. It is unbiased when no matching error is present, the administrative records cover the ACS intended population, and small sample post-strata can be collapsed. We are currently investigating the sources of these biases with the aim of reducing them.

Staff: Don Malec (x31718), Lynn Weidman, Jerry Maples, Elizabeth Huang

D. Linking ACS and CPS-ASEC (Current Population Survey – Annual Social and Economic Supplement) Data on Income and Poverty

Both the CPS-ASEC and the ACS can produce estimates of income poverty. The CPS estimate of poverty is based on a more detailed list of income questions and provides the official poverty estimate. The ACS has a much larger sample size and can provide estimates for detailed geographic levels. The differences and similarities of these two data collection systems will be evaluated with the aim of efficiently using both for estimation.

During FY 2006, a task force met regularly to investigate the problem of linking the two surveys. We prepared a detailed report on the possible biases and their causes that could occur from combining data. This report helped direct the progress of the task force. We also presented a literature review of methods that combine surveys together for making

estimates at a workshop of invited panel members from outside the Census Bureau. This project was successfully concluded partly based on strong recommendations by the panel to identify the differences between the surveys before making any attempt to combine them.

Staff: Don Malec (x31718), Tommy Wright, many others

E. ACS Missing Data and Imputation

This project undertakes research and studies on missing data and imputation for the American Community Survey.

During FY 2006, staff provided consulting to the Housing and Household Economic Statistics Division (HHES). We presented our findings on the best use of the property value variable. We proposed that new categories of the property value be used for imputing property insurance. The recommendation was accepted by HHES.

Staff: Yves Thibaudeau (x31706)

F. ACS Group Quarters (GQ) Item Imputation and Micro Data Disclosure Avoidance Research

In the past, before releasing GQ microdata we marked a record at risk if its particular combination of at-risk variables falls below a threshold. For these records we would impute the at-risk variables. Recently we have considered a refinement to this method. We can now determine, for each record, which specific variables put that record at risk. We may then synthesize, per record, only those variables that are absolutely necessary for removing disclosure risk. This requires much more computational effort, but the benefit is that we can minimize the amount of data we synthesize, which helps maintain accurate joint marginal tables. Also, by stratifying records based upon their at-risk variables, we can build models on a per-stratum basis.

During FY 2006, we have been investigating the use of multiple imputation (MI) as a means of disclosure control in ACS group quarters data. In this framework, we replace variable values with values taken from statistical models; the modeling procedure is repeated to generate multiple synthetic data sets, which are then released publicly. Our focus has been on two strategies for record replacement: partial synthesis, where a group of sensitive variables is replaced for all records in the survey, and selective synthesis, where the sensitive variables are replaced for only those records we determine to be at risk of disclosure. Within these strategies we have investigated several statistical models for performing the record replacement. Our main focus has been on two models in particular: for discrete variables, a saturated multinomial model with a Dirichlet prior, and for continuous variables, a generalized additive model with residual binning.

Staff: Rolando Rodríguez (x31816), Yves Thibaudeau

G. ACS Weighting Simplification Research

Group quarters (GQ) weighting and estimation has been carried out only once with ACS data, for calendar year 1999 when there were 36 counties in sample. At that time, GQ stratification and sampling was done separately for each county. For the full GQ implementation of ACS starting in 2006, a new GQ sort by type within state will be used. Now that every county in the nation will be in sample, there is the possibility of weighting GQ persons by county or state. A simulation study is comparing options for weighting GQ persons by county or state and controlling GQ person estimates, either by themselves or together with housing unit (HU) person estimates. A research proposal was developed for determining appropriate methodology for estimating the number of persons residing in GQ and their characteristics.

During FY 2006, several sets of comparisons were calculated for options that (1) control GQ and HU persons together by county and (2) control GQ persons separately by state. They included coefficients of variation (CVs) and CVs vs. mean absolute deviations from 'true' values for estimates of demographic and GQ type totals by states and counties. Because the mean absolute deviations for demographic totals for both states and counties are generally smaller under option (2) and the CVs are similar, this suggests that option (2) is preferred. Estimates were simulated and their comparison measures were completed for an additional option that controls to state total population for each of the seven Census 2010 major GQ types, rather than controlling by demographics. This option was compared to option (2) and was determined to be the preferred one. A draft report on the project was completed and sent for review. In addition, an ACS Issue Paper was prepared recommending use of the state major GQ type controls, which will be implemented in weighting the 2006 ACS.

Staff: Lynn Weidman (x34902), Michael Ikeda, Julie Tsay

H. ACS Language Research

This project provides technical and research support for addressing language issues in ACS data collection instruments and supporting documents. Staff members serve on inter-divisional working groups and provide consultation and technical support

in the design and development of language research for the ACS.

During FY 2006, staff served as active members of the ACS Language Team. We started the project on cognitive testing of translations of ACS CAPI survey letters and information brochures in multiple languages (Spanish, Chinese, Korean, and Russian). Staff supervised and participated in the following activities: 1) review of translations of ACS materials, 2) development of cognitive interview protocols, 3) translation of interview protocols, 4) cognitive interview training for language experts, 5) conducting cognitive interviews in English and Chinese, and 6) summary and report of research results.

This project is ground-breaking research in that this is the first research effort at the Census Bureau to cognitively test translations in multiple languages. We have gained valuable knowledge from this project in terms of translation methodology and cognitive testing in non-English languages. The findings of this project demonstrate: 1) the significance of cognitive testing of translations in target languages, 2) the effectiveness of committee approach in translating surveys and survey materials, 3) the value of pairing survey methodologists with language and culture experts in conducting cognitive interviews in non-English languages, and 4) the importance of translating Census Bureau materials following the Census Bureau Translation Guideline.

We also completed a draft proposal to review and validate the language proficiency tests currently being used by the call centers to certify bilingual field representatives. The goal of this proposal is to evaluate the current tests and assess if changes are needed. We received comments from the ACS language team and are working on incorporating those comments to the proposal.

Staff: Yuling Pan (x34950), Patti Goerman, Manuel de la Puente, Ashley Landreth, Diana Simmons

I. ACS "Field of Degree" Questions

The National Science Foundation (NSF) requested the Census Bureau to pretest a "field of degree" (FOD) question that it hopes will eventually be included on the American Community Survey. Assuming such a question meets the ACS Content Policy requirements and is included on the ACS, NSF will use the data to identify persons with science and engineering degrees to use as sampling frames for the National Survey of College Graduates.

During FY 2006, we developed a plan for testing a question proposed for the ACS which would capture the field of degree of bachelor degrees. In conjunction with NSF, we identified three versions of an FOD question to use for cognitive testing. Two categorical forced-choice question formats were used (one with 6 categories, one with 10 categories, and an open-ended format.) We conducted 42 cognitive interviews with persons who lived in households in which at least one person had a bachelor's degree or graduate degree. We conducted cognitive interviews using all three mode formats (self-administered, CATI and CAPI) used in the ACS. We prepared a project report and presented the results at a meeting with NSF and the Department of Education. We agreed on revised question wording for the split-panel 2007 ACS Methods Panel Test. A modified forced-choice categorical question and an open-ended format will be used. We were requested to develop plans for behavior coding of the 2007 ACS Methods Panel Test to contribute to the evaluation of the two questions.

Staff: Jennifer Rothgeb (x34968), Jen Beck

J. ACS Statistical Maps on American FactFinder – Usability Testing

The purpose of this study is to conduct a usability study of three different American Factfinder (AFF) maps. Two of the maps show statistical significance. The usability study will highlight which of the three maps perform better, and whether there is a difference between the statistical maps.

During FY 2006, staff met with the AFF development team and discussed users and typical user tasks. Staff planned a usability study and held a dry run to identify any issues with the test design. Staff conducted and ran eight users through the study. We found 7 high priority usability problems which include: Most users quickly scrolled the page to get the entire map in view. We recommended they have the map in its entirety already in view so that scrolling is not necessary. Another finding was that many users did not initially see the map legend. One user missed the legend for the entire study and only in the last minute of the study did he see the legend. Many users said they expected to see the legend either above or below the map, not off in the corner on the far left-hand side of the screen. For this, we recommended putting the legend on the map. We suggested that, if this was not possible, a hyperlink to the map legend be put in the white space above the map, to clue users in on where to find the legend. We found that statistical significance map B performed slightly better for users than Map A. Because of this finding, we recommended that Map B, the map with hatch marks, be used on the Web site, as it appeared to perform better for the users. The client approved of our finding and put the recommended map on the Web site.

Staff: Erica Olmsted-Hawala (x34893)

K. ACS Topic-Based Mode Consistency

CATI/CAPI Cognitive Pretesting

The ACS will be interpreting and implementing the mode consistency guidelines and applying them to its current computer-assisted telephone interview (CATI) and computer-assisted person interview (CAPI) instruments. The ACS Methods Panel will field test the modified CATI/CAPI instruments in 2007 (pending on funding availability). In addition to applying the mode consistency guidelines, the field test will introduce the topic-based format for the collection of basic demographic data (name, relationship to householder, sex, date of birth and age, race and Hispanic origin questions) in the American Community Survey's automated CATI and CAPI instruments. We participated in designing and pretesting the CAPI and CATI topic-based format of the demographic items in CAPI/CATI instrument with the application of the mode consistency guidelines. The main objective of this cognitive study was to test the structure and the flow of a topic-based format of the automated instruments for the collection of demographic data.

During FY 2006, we met with DSSD ACS staff to discuss and reach an agreement on both the project goal and project schedule. Staff provided input on the development and interpretation of the mode consistency guidelines on the revised ACS CAPI and CATI instruments. We designed paper instruments for the ACS CATI/CAPI interview and implemented the topic-based format in the front end demographic sections for the cognitive test. We conducted the cognitive interviews and reported that the newly designed topic-based CAPI and CATI instruments work effectively and efficiently during the testing. The front end topic-based demographics section transitions smoothly to the next section where the questions are in person-based format, and no apparent problem was detected with the recommended vertical branching procedures for the relationship, Hispanic origin and race questions. Findings for the study were documented in a final draft report and delivered to staff of the Decennial Statistical Studies Division in September. We also discussed with colleagues from the Director's Area, the Decennial Statistical Studies Division, the Decennial Systems and Contracts Management Office, and the Population Division to reach a consensus on unified recommendations on the branching procedures for the topic-based format data collection of the demographics section in the Decennial and ACS instruments. Vertical branching procedures were recommended for the relationship and Hispanic origin items while the horizontal branching procedure was recommended for the race item. The meetings and recommendations were documented in July.

Staff: Anna Chan (x38462), Jeff Moore, Jennifer Rothgeb, Jen Beck

L. ACS Main Page – Expert Review

Our division was asked to review the ACS main page for usability and accessibility, as a first step in the redesign of the site. Future work may include usability testing of design prototypes.

During FY 2006, staff conducted the expert reviews and provided feedback to the ACS point of contact. Testing showed the ACS web page did not have software viewers for MS-Word, MS-Excel, MS-Powerpoint, SAS, and PDFs. Also, navigation bars lacked skip links, tables were not accessible, graphics were not tagged with alt text, and pages had identically named links pointing to different places.

Staff: Larry Malakhoff (x33688), Betty Murphy

1.10 DATA INTEGRATION (Demographic Project 0906/7374)

The purpose of this research is to identify microdata records at risk of disclosure due to publicly available databases. Microdata from all Census Bureau sample surveys and censuses will be examined. Potentially linkable data files will be identified. Disclosure avoidance procedures will be developed and applied to protect any records at risk of disclosure.

During FY 2006, staff members investigated several websites containing detailed personal and financial information thought to pose risk for disclosure if linked to Census Bureau data sets. It is common with these searchable website databases to be able to view records by categories and individuals, but not to be able to download the data in a useable format. It is also very uncommon to locate personal information about an individual without prior knowledge of some identifying data such as social security number or name and address. Although some of these sites contain very detailed personal information, no sources of significant risk were found due to the limited availability, format, and access to these data sources.

We have worked to link publicly available longitudinal data sets across all waves in order to identify changes in household composition such as marriage, divorce, death, birth, etc. The primary focus of these efforts has been on both Survey of Income and Program Participation and Current Population Survey data sets. SAS programs have been written to combine the longitudinal data sets and identify changes for individuals in desired variables, and then provide that information in a format useable for the reidentification of respondents identities.

We worked on the Longitudinal Employer-Household Dynamics matching process to identify

synthetic data records that can be linked back to the original records. The Expectation Maximization (EM) method was tried several times without success, because the blocking strategies for the matching process do not lead to successful searches for the optimal weights. Staff designed an algorithm to calculate theoretical weights that are closer to the ideal weights than those that may be found by the EM method. We continue to find problems with both the data and the matching process, and missing values continue to create difficulties in assigning records to matching blocks.

Staff members ran evaluation measures for the partially synthetic data method. The value of the method is determined by two disclosure risk measures and several measures of analytic validity. We assess disclosure risk through two re-identification rates using distance matching and probabilistic record linkage. Staff used univariate statistics (means and variances), two and three way cross-tabulations, and regression parameters to measure analytic validity.

Staff: Laura Zayatz (x34955), Sam Hawala, Phil Steel, Paul Massell, Jeremy Funk

1.11 SURVEY OF INCOME AND PROGRAM PARTICIPATION (SIPP) RESEARCH (Demographic Project 0919)

A. SIPP Methodological Research

This project conducts long-term methodological research to inform the design of SIPP in particular, and longitudinal surveys in general. A major current focus of this project is the evaluation and documentation of the impacts of the many and substantial revisions to the 2004 panel SIPP questionnaire made as a result of the multi-year SIPP "Methods Panel" research and development effort.

During FY 2006, staff conducted research to evaluate the impact of SIPP 2004 panel questionnaire design changes on data quality and nonresponse, through a comparison of the 2004 panel with the 2001 and earlier panels. We completed evaluations of the impact of new nonresponse follow-up procedures on nonresponse to asset and program income amounts [see Moore, J. (2006), "The Effects of Questionnaire Design Changes on General Income Amount Nonresponse in Waves 1 and 2 of the 2004 SIPP Panel," U.S. Census Bureau, Statistical Research Division, *Research Report Series (Survey Methodology) #2006-04*, issued March 1, 2006; and Moore, J. (2006), "The Effects of Questionnaire Design Changes on Asset Income Amount Nonresponse in Waves 1 and 2 of the 2004 SIPP Panel," U.S. Census Bureau, Statistical Research Division, *Research Report Series (Survey Methodology) #2006-01*, issued January 4, 2006]. This research found significant and substantial reductions in final nonresponse for amount items through an expansion of "range"-type follow-ups in wave 1 (assets), and through the use of dependent follow-up procedures in wave 2 and beyond (both assets and programs). In both cases, however, the wave 2 results also showed higher initial rates of nonresponse in 2004, due to interviewers' improper use of the dependent procedures. We also completed an analysis comparing seam bias in waves 1 through 4 of the 2001 and 2004 SIPP panels [see Moore, J., Bates, N., Pascale, J., Griffiths, J., and Okon, A. (2006), "Use of Dependent Interviewing Procedures to Improve Data Quality in the Measurement of Change," U.S. Census Bureau, Statistical Research Division, *Research Report Series (Survey Methodology) #2006-02*, issued January 13, 2006]. This research shows significantly reduced seam bias across almost all types of characteristics as a result of improved dependent interviewing procedures introduced in the 2004 panel questionnaire. Another research project evaluated the implementation of the new "RIP" (Respondent Identification Policy) procedures in the 2004 SIPP panel. Staff authored two papers summarizing the results of this research–one presented at the MOLS conference [see A. Chan and J. Moore, "The Impact of a Confidentiality Protection Policy on the Use of Dependent Interviewing in a Longitudinal Household Panel Survey: The Case of the Survey of Income and Program Participation"], and the other at the annual meetings of the American Association for Public Opinion Research (AAPOR) [see A. Chan and J. Moore, "Concern about Confidentiality and its Relationship to Subsequent Survey Participation in a Longitudinal Panel Survey"]. In these papers, we find a high level of RIP consent, a minimal impact of RIP on the ability to use dependent interviewing, significant associations between response to the RIP question and various demographic characteristics (most notably, the presence of unrelated household members), other indicators of confidentiality concern, and noninterview status in the subsequent survey wave.

Our staff contributed substantially to two closely related research efforts to investigate measurement issues for two components of individual wealth–proposed new questions designed to capture wealth derived from annuities and trusts, and a new question implemented in the SIPP 2004 wave 3 Assets and Liabilities topical module intended to capture the cash value of life insurance policies. Both efforts are part of a contract with the Social Security Administration. The annuities and trusts research was a cognitive interview project, carried out in collaboration with DSD staff. The main findings of

this research are (a) that the technical definitions of key terms (e.g., "annuity," "managed investment accounts," "share") are not well-understood, so that extra care must be taken in asking about those concepts; and similarly (b) that many respondents are unfamiliar with the different types of life insurance, necessitating extra care to assist respondents in understanding the questions and answering them correctly. The solutions proposed for these problems are drawn from procedures which have been used successfully in other surveys (in particular, the Survey of Consumer Finances) [see A. Okon, T. Gilbert, and J. Moore, "Results from a Cognitive Interview Evaluation of Proposed New Questions on the Value of Annuities and Trusts and Existing Questions on the Cash Value of Life Insurance"]. The life insurance research was primarily a data analysis project, carried out in collaboration with HHES staff. The main finding of this research is that despite the change in focus to a "cash value" concept, respondents' reports strongly suggest that many are still reporting the face values of their policies. We recommend increased care with regard to determining the type of life insurance policy a person has, and also with regard to capturing cash value, since it is generally not the most salient amount associated with a life insurance policy [see A. Gottschalck and J. Moore, "Evaluation of Questionnaire Design Changes on Life Insurance Policy Data *[Product No. 5, Interagency Agreement (IAA) BC-05-03]"*]. Both reports are currently undergoing review before being sent, in draft form, to the sponsor.

Other research work in other areas during FY 2006 has yet to yield finished reports: research to assess the impact of the new questionnaire and the entire package of procedural changes implemented with the 2004 SIPP panel on unit nonresponse and attrition, through a detailed and painstaking analysis of production data over the life of the SIPP program; and research to assess the impact of questionnaire design changes on data quality in the Recipiency History and Marital History topical modules.

Of course, the major SIPP event in FY 2006 was the announced end of the current SIPP program, and its eventual re-emergence in different form. Staff continued to serve on three groups which are involved with the planning and design of the new DEWs (the new SIPP) survey program–the Survey Group (chaired by the a staff member of the Population Division), the Content Group and the overall Coordinating Group (both chaired by staff members of the Housing and Household Economic Statistics Division). Some research work was also carried out in connection with the work of these groups, including a draft "thought piece" outlining the arguments for use of a January-through-December calendar year as the 12-month reference period for the new survey (as opposed to a September-through-August or other non-calendar "year") and a new research project to examine the survey methodological literature for research on the impact of questionnaire design on income reporting–specifically, whether it is better to capture all income sources first, and then return to each source and capture detailed amount information, or whether it is better to capture amount information immediately after identifying an income source. Research directly addressing this question appears to be quite scant; thus far the only relevant work identified is from a research program carried out in the late 1970's in connection with a survey program that became SIPP. Interestingly, reanalysis of this work suggests that the conclusion drawn from it at the time–get all sources, and then get income details–is not supported by the data. As yet, these findings are summarized only in an informal note to Content Group: "Summary of ISDP Research on Income Source and Amount Question Ordering."

Staff: Jeff Moore (x34975), Anna Chan

B. Longitudinal Weighting

The objective of this project is to design and conduct research required to assess the effectiveness of weighting alternatives for the SIPP longitudinal estimation.

During FY 2006, staff conducted a simulation study to compare the SIPP 1996 variance estimation (VPLX) to two other approximate approaches. The study was conducted in an effort to identify plausible variance estimation alternatives for estimates of "longitudinal nonresponse error." Results suggested that the VPLX procedure is reliably close to the quadratic-form estimator of Ernst, Huggins and Grill (EHG). Consequently, for reweighting estimators designed to compensate for longitudinal nonresponse, the choice between these methods will largely be one of convenience. Perhaps the natural choice would be to use the EHG whenever linearization is accurate enough, while VPLX balanced replicate-factor weighting would be the preference when linearization is suspect. More details of the study will be provided in a subsequent SRD report.

We expanded our evaluation of SIPP nonresponse weighting alternatives with the inclusion of additional empirical results from the 2001 panel and the derivation of logistic regression models which incorporated previous wave data for some of the principal survey variables. Empirical comparisons of results based on these models were made with results from previous models and the current adjustment methodology, for which ostensible improvements in the logistic models were observed.

Staff completed a comprehensive study of

weighting cell adjustment alternatives for longitudinal nonresponse. The study was based on wave-level data from the 1993, 1996, and 2001 panels. Results varied somewhat by panel. However, as with our previous work, we observed core survey items for which the current weighting cell procedure was seemingly less effective than for other items. Moreover, we have some indications that the application of one of the selected weighting alternatives could result in a reduction of the related bias associated with estimates for most of theses items. Results from this study were presented at the 2006 International Conference on Methodology of Longitudinal Surveys and at the Joint Statistical Meetings.

We presented some preliminary ideas regarding statistical methodology that might be applicable to the new program scheduled to replace SIPP, termed the Dynamics of Economic Well-Being Program. In addition, we proceeded with efforts to 1) assess the effectiveness of using nonparametric response modeling alternatives to the current longitudinal nonresponse adjustment; 2) develop an effective set of evaluation criteria for alternatives for the nonresponse weighting of longitudinal estimates; and 3) identify an acceptable family of metrics that could be used in a more general evaluation and comparison of selected longitudinal nonresponse weighting methodology.

Staff: Leroy Bailey (x34917), Eric Slud, Julie Tsay

C. Quick Turnaround Pretesting of Household Surveys

This project involves pretesting new or revised series of questions for insertion into household surveys. The projects are of the short-term, quick turnaround variety rather than long-term research efforts to redesign a survey. Methods used include cognitive testing and other techniques as appropriate.

During FY2006, staff conducted cognitive interviews on the Current Population Survey high school validation questions. Two rounds of interviews were conducted with respondents of varying educational, gender, and racial characteristics. Of particular interest were respondents with GEDs, certificates of attendance, and high school credentials obtained in foreign countries. The results showed that there were comprehension and response problems with the questions asking about the type of credential obtained from the last high school attended. This was because: (1) respondents were unfamiliar with the term "certificate of attendance," which is a credential granted in some states to people who complete 12 years of education but do not meet all the requirements for graduation, but was frequently interpreted as a certificate of perfect attendance; (2) "certificate of achievement," another similar term, was sometimes interpreted as a certificate of honorable accomplishments, such as achieving high scores or completing online courses; (3) not all respondents were familiar with the term "GED." A revised version of the question designed to elicit reports of type of high school credential, which excluded some of the problematic terms, was more understandable for respondents and elicited better reports.

We also conducted cognitive research on newly proposed questions for the National Crime Victimization Survey School Crime Supplement. Results of these interviews showed that although the reference period for the survey is the last six months, respondents were thinking about the entire school year when answering questions. In addition, respondents did not understand the term "service clubs" or "Key Club," which is a specific service club; respondents did not understand the phrase "prescription drugs without a prescription;" and respondents preferred a 4-point scale labeled "strongly agree, agree, disagree, strongly disagree" over one labeled "definitely true, mostly true, mostly false, definitely false" when answering opinion questions.

Staff: Terry DeMaio (x34894), Andy Jocuns, Ashley Landreth, Lorraine Randall, Kristen Hanaoka

1.12 SIPP ASSETS/LIABILITIES IMPUTATION RESEARCH/SOFTWARE DESIGN (Demographic Project 7558111)

This project undertakes research requested by the Social Security Administration (SSA). The goals of the research are: 1) To measure the impact of the SIPP imputation methodology on the bias of the final wealth estimates; and 2) To research and devise reduced-bias imputation methods for future implementation in the process of editing wealth data.

During FY 2006, staff provided a final technical report on the imputation of four assets and liabilities. The final report emphasizes the statistical methodology. We defined new imputation methods for two additional assets: individual and joint checking accounts. We showed that the current imputation methods underestimated these assets.

Staff: Yves Thibaudeau (x31706)

1.13 AMERICAN HOUSING SURVEY-METRO (Demographic Project 7455)

This project provides questionnaire pretesting assistance for the American Housing Survey.

During FY 2006, we finalized report entitled: "Report on Cognitive Testing of New Fire Safety Questions in the American Housing Survey." There are no other major activities to report during this fiscal year.

Staff: George Carter (x31774), Manuel de la Puente

1.14 NONRESPONSE BIAS ANALYSIS (Demographic Project 7485000)

We are conducting a nonresponse bias analysis for the 2003 National Survey of Recent College Graduates (RCG), sponsored by the Demographic Surveys Division (DSD) and the National Science Foundation (NSF). The findings will be used by NSF to obtain Office of Management and Budget approval to conduct the next RCG in 2006.

During FY 2006 and after completing a draft report, findings were shared with Westat. Westat suggested further analysis, which produced favorable results. The report was finalized to DSD's and NSF's satisfaction. Staff presented a summary of results at the 2006 Joint Statistical Meetings in Seattle. The final report and the American Statistical Association Proceedings Paper were submitted to the SRD Report Series.

Staff: Aref Dajani (x31797), Jerry Maples

1.15 RESEARCH FOR SMALL AREA INCOME AND POVERTY ESTIMATES (SAIPE) (Demographic Project 7165)

The purpose of this research is to develop, in collaboration with the Housing and Household Economic Statistics Division (HHES), methods to produce "reliable" income and poverty estimates for small geographic areas and/or small demographic domains (e.g., poor children age 5-17 for counties). The methods should also produce realistic measures of the accuracy of the estimates (standard errors). The investigation will include assessment of the value of various auxiliary data (from administrative records or surveys) in producing the desired estimates. Also included would be an evaluation of the techniques developed, along with documentation of the methodology.

During FY 2006, with the availability and the large sample size of the Supplementary Surveys of the American Community Survey (ACS) for state income and poverty estimates, we showed that using ACS Supplementary Survey and CPS ASEC data for income years (IY) 2000-2003 in the bivariate models for state median household income estimates result in small average improvements in posterior variances (except IY 2001) than the current model, and occasional large increases in posterior variances for some states. These corresponded to states with a large standardized regression residual in the ACS equation (i.e., outliers or near outliers). Similar results were found in a draft report (May, 2005) of an empirical study on using ACS Supplementary Survey data for state poverty ratio of four age groups using bivariate model for IYs 2000-2002.

Following the recommendation of a Harvard University reviewer of the draft report of May, 2005 titled "An Empirical Study of Using ACS Supplementary Survey Data in SAIPE State Poverty Models," we did an empirical study by assuming a t-distribution (with various fixed degrees of freedom–3, 4, 5, and 8) instead of a normal distribution for one of errors (model error or sampling error in CPS or ACS equations) in an unrestricted bivariate state poverty model for the CPS and ACS state poverty ratio estimates to handle the outliers in the ACS equation for IY 2002 of age 5-17 state poverty ratio. We observed how assumption of a t-distribution with various degrees of freedoms effects the posterior means and standard deviations of the model error variances and how it effects the posterior variances of the true poverty rates (in CPS equation) of the outlier states for each of four possible models. When a t-distribution is assumed for the model or sampling error in CPS equation, the posterior mean of the model variance of CPS equation increases with the decreases of the degree of freedom. We also observed larger posterior variances of the poverty rate for two closest to being outlier states (Maine and Arkansas) in CPS equation. By assuming a t-distribution for the model error or the sampling error in the ACS equation, the posterior mean of the model error of ACS equation increases with the decreases of the degree of freedom. We also observed a reduced posterior variance for an outlier state (Alaska) in the ACS equation, the smaller values of degree of freedom lead to lower values of the posterior variance of the poverty rate of Alaska, and assuming t-distribution for sampling error in ACS equation has the great effect. These effects are in the desired direction of reducing the posterior variances of the outlier poverty rate by discounting its ACS poverty rate.

The Housing and Household Economic Statistics Division (HHES) has obtained the state level Free and Reduced-Price School Lunch (FRPL) data for fiscal years 1989 through 2005 from Food and Nutrition Service (FNS). We evaluated these data by incorporating them in the current SAIPE state poverty ratio model to see whether it is worthwhile of being included in the model. We observed that with the current predictors being in the state poverty model, this new variable of the state FRPL ratio is not

statistically significant for most years studied except for IY 1992,1993, and 2001.

HHES had tabulated Internal Revenue Service (IRS) income tax data for school district; we evaluated several predictive models for school district population and poverty that made use of these tabulated IRS data. The goal was to see if the updated information available from the IRS data would improve poverty and population estimate relative to the official method which uses no updated data for school district, but assumes school district to county shares of poverty remain unchanged from the previous census. We showed the improvement in school district level estimators when incorporating the IRS income tax data in both the population and poverty estimate for 2000 (IY1999), and for school-age children population estimates for 1990 (IY1989) by comparing these estimates to corresponding estimates from Censuses. We demonstrated some issues to be addressed regarding the use of the IRS data at the school district level. A report entitled "Small Area Estimation for School District Child Population and Poverty Estimates: A Case Study using the IRS Income Tax Data" was written, and subsequently reviewed by two outside reviewers (one from Harvard University and the other from the University of Michigan). The reviewers agreed with the overall conclusions of the report and also made some technical comments that suggested areas for further research.

Staff: Elizabeth Huang (x34923), Jerry Maples, William Bell (DIR)

1.16 EDITING METHODS DEVELOPMENT (Economic Project 2370654)

Investigation of Selective Editing Procedures for Foreign Trade Programs

The purpose of this project is to develop selective editing strategies for the U. S. Census Bureau foreign trade statistics program. The Foreign Trade Division (FTD) processes more than 5 million transaction records every month. These data are edited automatically, however some records still may have edit failures. Follow-up of all failing records is not possible due to the large size of the data and the amount of time available for the data review process.

During FY 2006, we developed four separate score functions for automatically identifying failing records that have a significant impact on the final tabulations. Our initial score function requires the availability of previous month data. However, our ranking system failed to rank a large number of records since previous cycle data may not be available. We designed a partition of the data by commodities and developed a new way of ranking records that does not require the availability of previous period data. The modified score functions use only current cycle data by estimating the expected value of shipments for a record using the current month unit price ratios and the median of reported values at given commodity groupings. We developed procedures for identifying characteristics of records that will require automatic follow-up: These records will bypass the selective editing process and flow directly to the analysts for more careful manual scrutiny. We designed a simple weighting scheme for the trade data based on commodities and value of shipments. Doing this allows us to include more information about the record into the score functions by including a factor based on the record's importance weight. We also developed a way of assigning the suspicion factor in the score using the distance of an observation from the median. Measuring displacement from the median instead of from the quartiles makes it possible for every failing record to have a nonzero measure of suspicion.

Staff: María García (x31703), Yves Thibaudeau, Alison Gajcowski, Sharon Ennis (FTD), April Downs (FTD), Andrew Jennings (FTD)

1.17 DISCLOSURE AVOIDANCE METHODS (Economic Project 2470651)

The purpose of this research is to develop disclosure avoidance methods to be used for Census Bureau publicly available economic data products. Emphasis will be placed on techniques to implement disclosure avoidance at the stage of data processing. Disclosure avoidance research will be conducted on alternative methods to cell suppression for selected economic surveys. We will also aid in the implementation of the methods.

During FY 2006, staff worked closely with many individuals who work on the Commodity Flow Survey (CFS) in a collaboration to determine a suitable alternative to cell suppression for protecting the tables produced from CFS. To date, the focus has been on testing the feasibility of a noise (perturbation) method developed in the late 1990's by researchers at the Census Bureau (Evans, Zayatz, and Slanta, thus the method is now referred to as the EZS noise method).

We worked closely with staff of the Economic Statistical Methods and Programming Division in fine-tuning and implementation of the EZS method used for testing on selected tables from CFS 2002. Various analyses were performed to determine if the results were consistent with the theory underlying the method. Testing so far indicates the implementation is

working well. A staff member wrote and presented a paper at the 2006 Joint Statistical Meetings (co-authored by the Confidentiality Officer of the Bureau of Transportation Statistics) that includes a protection analysis, data quality analysis, and discussion of publication options.

Staff began developing a general mathematical and statistical approach to the modeling of sources of uncertainty contributing to published values that require disclosure protection. The goal is to ensure that all sources of uncertainty that can be reasonably modeled are taken into account so that respondent values will not be over-protected (over-protection reduces the data quality of the tables to which they contribute). In particular, data user uncertainty of sampling weights and of the unrounded cell value, add to the user uncertainty regarding the relative contributions of each company to a cell value that is measured by the standard p% rule. This work was documented in Statistical Research Division *Research Report Series (Statistics #2006-4).*

Staff members have played a major role in the economic directorate project that involves exploring the feasibility of using the EZS noise protection method rather than cell suppression in a wide range of economic tabular products. This work included developing a SAS program that implements the EZS noise method for protecting tabular magnitude data. We did computational explorations in attempts to optimize the effectiveness of the method for a specific set of tables. In particular, a careful study of various types of 'noise balancing' was undertaken, and of the effect of each method on the types of protection of sensitive cells and perturbation of non-sensitive cells. Global measures of these effects are being developed. We have applied these methods and analyses in testing selected tables from the County Business Patterns Survey and Non-Employer Statistics.

Staff: Laura Zayatz (x34955), Paul Massell, Phil Steel, Sam Hawala, Jeremy Funk

1.18 TIME SERIES RESEARCH (Economic Project 2370652)

A. Seasonal Adjustment Support

This is an amalgamation of projects whose composition varies from year to year, but always includes maintenance of the seasonal adjustment and benchmarking software used by the Economic Directorate.

During FY 2006, staff members organized and taught a course on time series modeling and seasonal adjustment to personnel from the Economic Directorate, as well as an X-12-ARIMA class for CitiAnalytics in New York City.

We made presentations to a delegation from the State Information Agency of the People's Republic of China on estimation of lunar holiday effects in X-12-ARIMA and other advances in seasonal adjustment at the Census Bureau, and provided technical information and assistance to the Bank of Korea and the Korean Statistical Office. The staff also hosted visits from seasonal adjustment experts of the University of Technical Sciences, Zurich and of the Australian Bureau of Statistics.

Staff contributed to the development of "Guidelines for Seasonal Adjustment Diagnostics," which were approved for adoption by the Census Bureau Methodology and Standards Council.

We responded to over 175 requests for information and support concerning the X-12-ARIMA program and general seasonal adjustment methodology from users outside the Census Bureau from government agencies both within the U.S. (including the Bureau of Labor Statistics, the Bureau of Economic Analysis, and the U.S. Department of Agriculture) and in other countries [including Office of National Statistics (UK), Statistics Canada, INEGI (Mexico), Statistics New Zealand, State Information Agency (People's Republic of China), Statistik Austria, INSEE, Australian Bureau of Statistics, Government of Thailand, Eurostat, INDEC (Argentina), Korea National Statistical Office, and Statistics Norway], central banks (the U. S. Federal Reserve Board, the Bank of Taiwan, Bank of Korea, Danmarks Nationalbank, Bank of Pakistan, Bank of Japan, Bank of Canada, Bank of England, and the Bank of Israel), universities (including the University of Arizona, the University of Chicago, and Vanderbilt University), and private industry and consultants (including Hendyplan, CitiAnalytics, Greenspan Associate, Nextel Corporation, and SAS).

Staff: Brian Monsell (x31721), David Findley (DIR), Tucker McElroy

B. X-12-ARIMA Development and Evaluation

The goal of this project is a multi-platform computer program for seasonal adjustment, trend estimation, and calendar effect estimation that goes beyond the adjustment capabilities of the Census X-11 and Statistics Canada X-11-ARIMA programs, and provides more effective diagnostics. This fiscal year's goals include: (1) finishing a release version of the program for the general public that includes the automatic time series modeling capability of the TRAMO/SEATS seasonal adjustment program, and (2) further improvements to the X-12-ARIMA user interface, output and documentation. In coordination and collaboration with the Time Series Methods Staff, the staff will provide internal and/or external training

in the use of X-12-ARIMA and the associated programs, such as X-12-Graph, when appropriate.

During FY 2006, staff incorporated benchmarking routines developed by Statistics Canada into Version 0.3 of X-12-ARIMA, and completed documentation of the new features. A version of the revised software was provided to Statistics Canada for testing.

Staff also responded to a request by the Time Series Methods Group of the Office of Statistical Methods and Research for Economic Programs (OSMREP) by revising the input procedures of X-12-ARIMA so that users can access files whose names contained a blank–this was incorporated so that this could be processed as an argument to the program, as well as in metafiles and data metafiles.

Staff began a study to evaluate the model identification procedure in Version 0.3 of the X-12-ARIMA program by examining the performance of the procedure on simulated series; this study will include the performance of automatic Easter and trading day detection procedures within X-12-ARIMA.

Staff: Brian Monsell (x31721), Chak Li

C. Research on Seasonal Time Series - Modeling and Adjustment Issues

The main goal of this research is to discover new ways in which time series models can be used to improve seasonal and calendar effect adjustments. An important secondary goal is the development or improvement of modeling and adjustment diagnostics. This fiscal year's projects include: 1) collaboration with the Office of Statistical Methods and Research for Economic Programs in the further evaluation of the TRAMO/SEATS model-based seasonal adjustment program; 2) the further development of a version of X-12-ARIMA called SEATS, so that X-12-ARIMA diagnostics can be used to analyze SEATS adjustments, and also so that, when appropriate, SEATS adjustments can be produced by the Economic Directorate.

During FY 2006, staff completed several enhancements of X-13A-S, including changes to SEATS model-based seasonal adjustment, inclusion of revision variance measures, inclusion of signal extraction diagnostics, and inclusion of growth rates estimates and standard errors. Extensive testing and debugging of the software was conducted, and the new diagnostic features were integrated into the existing diagnostics output so that they could be made available to software developed by the Time Series Methods Staff.

Staff also conducted research in the following topics: nonparametric and model-based tests for residual seasonality, models incorporating seasonal heteroscedasticity, filtering time series observed at different sampling frequencies, seasonal unit roots and seasonal outliers, the effects of trading day variation on the estimation and detection of Easter effects, using empirical mode decompositions as a method for seasonal adjustment, and conversion of data collected over different sampling periods (4 and 5-week) into monthly observations. These research topics are broadly relevant to constructing diagnostics and models for improved seasonal adjustment.

Staff: Tucker McElroy (x33227), Christopher Blakely, Richard Gagnon, Chak Li, Donald Martin, Thomas Trimbur, William Bell (DIR), David Findley (DIR), Brian Monsell

D. Supporting Documentation and Software for X-12-ARIMA

The purpose of this project is to develop supplementary documentation and supplementary programs for X-12-ARIMA that enable both inexperienced seasonal adjustors and experts to use the program as effectively as their backgrounds permit. This fiscal year's goals include collaborating with Office of Statistical Methods and Research for Economic Programs (OSMREP) staff to develop a new and improved version of the X-12-ARIMA Reference Manual with an extensive index and other aids.

During FY 2006, staff continued updating drafts of the current version of the X-12-ARIMA Reference Manual for versions 0.3 and X-13A-S, and explored options for making the documents accessible.

Staff developed a utility in the Icon programming language to convert X-12-ARIMA output, error, and log files into accessible HTML, and provided this utility to the Time Series Methods Staff for integration into the Windows Interface to X-12-ARIMA. Staff also produced a utility to generate constrained stock trading day regressors from a research report written by the Senior Mathematical Statistician for Time Series.

Staff produced research papers concerning the statistical properties of model-based seasonal adjustment diagnostics, revisions variances for model-based seasonal adjustment, and an exact formulation of the Hodrick-Prescott filter.

Staff: Brian Monsell (x31721), Richard Gagnon, Tucker McElroy

1.19 POSTAL RATE COMMISSION/ STATISTICAL CONSULTING (Statistical Research Division Project 8150)

The work associated with this project will entail

the review of testimony, interrogatories, decisions, and other documentation relating to proceedings of the Commission in order to identify major statistical issues and provide relevant consultation. The consultation will include: 1) the briefing of the commissioners and other commission officials on the ramifications and desirable approaches to the identified statistical questions; and 2) the presentation of written summaries of the major findings from all assigned reviews.

During FY 2006, staff conducted technical reviews of testimony, survey references, empirical results, and other documentation relating to the Postal Services's In-Office Cost System and the 2005 Window Service Transaction Time Study and their pertinence to the rate case currently before the Commission. We provided statistical consultation relevant to the determination of the validity and overall quality of the studies reviewed and the related results, and assisted Commission staff in assessing the utility of those results in providing statistical support for submissions for the current proceedings.

Staff: Leroy Bailey (x34917)

1.20 PROGRAM DIVISION OVERHEAD (Census Bureau Project 0251)

A. Division Leadership and Support

This staff provides leadership and support for the overall collaborative consulting, research, and operation of the division.

Staff: Tommy Wright (x31702), Tina Arbogast, Alice Bell, Pat Cantwell, Robert Creecy, Manuel de la Puente, Michael Hawkins, Judi Norvell, Barbara Palumbo, Gloria Prout, Diana Simmons, Kelly Taylor

B. Research Computing

This ongoing project is devoted to ensuring that Census Bureau researchers have the computers and software tools they need to develop new statistical methods and analyze Census Bureau data.

During FY 2006, the new SGI Altix Bx2 (research1.srd.census.gov) has been set up in the Bowie Computer Center and is fully operational. This 64-processor system is the core of a high performance research computing environment that is available to researchers throughout the Census Bureau, enabling computationally intensive statistical methods for missing data, record linkage, modeling of large data sets, and data mining. Together with the Longitudinal Employer-Household Dynamics (LEHD) staff and the IT Directorate, we planned the acquisition, installation, and configuration of the system, migrated LEHD users and data from their previous Sun E12K/Solaris environment, and migrated SRD users and data from their previous Sun/Solaris environment–essentially replacing and consolidating the research computing environments of LEHD and SRD into a single, more powerful computing environment that is being shared corporately. The new system is consistent with the IT Directorate's vision of using open source software and Linux-based machines for Unix computing at the Census Bureau. The Sun servers previously used by SRD and others for research computing have been decommissioned to facilitate the move to the new building. By centralizing computing resources in the Bowie Computer Center, SRD no longer bears the costs associated with maintaining its own climate controlled server room.

Staff: Chad Russell (x33215), Mohammed Chaudhry, Robert Creecy

2. RESEARCH

2.1 – 2.2 GENERAL RESEARCH AND SUPPORT TOPICS (Census Bureau Projects 0351, 1871)

Statistical Methodology

A. Disclosure Avoidance

The purpose of this research is to develop disclosure avoidance methods to be used for all Census Bureau publicly available data products. Emphasis will be placed on techniques to implement disclosure avoidance at the stage of processing. Methods will be developed, tested, evaluated, and documented. We will also aid in the implementation of the methods.

During FY 2006, staff gave a demonstration of the Microdata Analysis System (MAS) to the Census Bureau's Deputy Director and to the Associate Director for Economic Programs. We also gave a demonstration of the MAS to a group of SRD staff, tested and fixed a bug in the procedure for numeric variables, and fixed a problem in the code generation for the regression routine. Staff verified that the data set used in the MAS is the correct version of the March Supplement to the CPS released by the Census Bureau through direct comparison of Data Ferret output to MAS results. Staff attempted to identify individuals' categorical characteristics through the analysis of regression dummy variables and detailed universe definition.

Staff members worked on the plan for the next phase of the Microdata Analysis System. We received more funding for the project and wrote a statement of work. We met with the Chief of the Information Technology Security Office concerning data security for the system. Staff wrote a work order for the incorporation of ACS into the MAS and the contractor has accepted the proposal.

We worked with staff of the Energy Information Administration in revising *Working Paper 22 on Disclosure Protection* published by the Federal Committee on Statistical Methodology.

Staff members have attempted to keep up to date on literature addressing risk and utility measures that might be applicable to the data sets and disclosure avoidance methods used at the Census Bureau, as well as working to create new measures where appropriate. The purpose of this research is to remain at the forefront of research in the area of disclosure avoidance and confidentiality protection. Several methods have been identified and SAS programs have been written to apply and test some of them.

Staff: Laura Zayatz (x34955), Phil Steel, Paul Massell, Sam Hawala, Jeremy Funk

B. Disclosure Avoidance for Microdata

The staff investigates methods of microdata masking that preserves analytic properties of public-use microdata and avoid disclosure.

During FY 2006, staff put together a number of examples illustrating the deleterious effects of some commonly used masking methods. Staff gave the talk "Methods of Re-identifying Masked Microdata" at the Office of National Statistics in London, England on April 27, 2006. A staff member co-taught a short course of the Joint Program in Survey Methodology on microdata confidentiality on February 22-23, 2006.

Staff: William Winkler (x34729), Yves Thibaudeau, William Yancey

C. Seasonal Adjustment (See Economic Project 2370652)

D. Small Area Estimation-Decennial/ Demographic Applications

A monthly meeting designed as an open forum for small area research and topics throughout the Census Bureau was established. These meetings are designed as a way to disseminate ideas on small area estimation across the group of small area researchers working on a wide variety of projects across the Census Bureau.

During FY 2006, a bimonthly meeting with decennial staff working on issues of small area coverage estimation for the 2010 decennial census was begun in August. Issues discussed and work presented included a review of random effects small area coverage modelling, a review of a Bayesian census undercount estimation paper by Elliot and Little, a presentation on using random effects to assess logistic model errors in small domains, and an analysis of incorporating State effects in logistic regression models.

Staff: Don Malec (x31718), Jerry Maples

E. Nonresponse in Longitudinal Surveys

This project requires an extensive examination of relationships between longitudinal survey nonresponse and potential explanatory variables for a variety of survey items. The research objectives are: 1) to apply the results of this investigation in the development of general analytical models which reflect potential survey errors in estimation and

analysis ascribed to longitudinal nonresponse, and 2) to identify and advance a well-defined process for selecting and evaluating desirable approaches to nonresponse compensation for longitudinal surveys.

See highlights from Demographic Project 0919-B.

Staff: Leroy Bailey (x34917)

F. Household Survey Design and Estimation

The household surveys of the Census Bureau cover a wide range of topics but use similar statistical methods to calculate estimation weights. It is desirable to carry out a continuing program of research to improve the accuracy and efficiency of the estimates of characteristics of persons and households. Among the methods of interest are sample designs, adjustments for nonresponse, proper use of population estimates as weighting controls, and the effects of imputation on variances.

During FY 2006, staff prepared several revisions and final draft of 'Design of the Sample and Sample Selection,' which is chapter 4 in *Design and Methodology: American Community Survey, Technical Paper 67.*

Staff: Lynn Weidman (x34902)

G. Sampling and Estimation Methodology: Economic Surveys

The Economic Directorate of the Census Bureau encounters a number of issues in sampling and estimation in which changes might increase the accuracy or efficiency of the survey estimates. These include estimates of low-valued exports not currently reported, alternative estimation for the Quarterly Financial Report, and procedures to address nonresponse and reduce respondent burden in the surveys. Further, general simulation software might be created and structured to eliminate various individual research efforts.

During FY 2006, working with staff from the Foreign Trade Division, we derived and investigated methods to estimate low-valued exports (LVEs) and imports (LVIs). For LVEs, about 80% is never recorded or available. We developed a procedure that produces estimates of LVEs that are consistent with the suspected size and direction of the unknown totals, and checked the procedure on data from several countries. For LVIs, we are determining which data are available every month and can be tabulated automatically. We are also trying to estimate the small gap that remains, that is, the total from those data categories that are not keyed or recorded in other ways.

Staff also completed teaching the 14-week course, "Sampling, Design and Analysis" for staff in the Economic Directorate.

Staff: Pat Cantwell (X34982), Mary Mulry, Roxanne Feldpausch (OSMREP), Mike Ikeda, Lynn Weidman

H. Research and Development Contracts

The Research and Development Contracts are indefinite delivery, indefinite quantity task order contracts for the purpose of obtaining contractor services in highly technical areas to support research and development activities across all Census Bureau programs. The contracts provide a pool of contractors to assist the Census Bureau in conducting research on all survey and census methods and processes to improve our products and services through FY2007. The prime contractors include educational institutions, university-supported firms and privately owned firms that concentrate in sample survey research, methodology, and applications to create a pool of specialists/experts to tackle some of the Census Bureau's most difficult problems through research. Many of the prime contractors are teamed with one or more organizations and/or have arrangement with outside experts/consultants to broaden their ability to meet all of the potential needs of the Census Bureau. These five-year contracts allow Census Bureau divisions and offices to obtain outside advisory and assistance services to support their research and development efforts quickly and easily.

During FY2006, 5 new task orders were awarded, 50 modifications were awarded, 7 task orders were completed and one was a stop work order. To date, there have been 56 task orders awarded under the R&D 2007 contracts, with a monetary value of over $47.7 million(over $43.9 million of the 47.7 million obligated).

Staff: Ann Dimler (x34996)

I. Study of Reserved Parking for New Census Bureau Building

We were requested to assist in the allotment of reserved parking after the move to the new building. Because parking will be limited in the new garage-only arrangement, Census GS-15 or above employees will no longer have individually assigned spaces and instead will park in a designated reserved parking 'section.' Our goal was to determine how large this section will need be to fully accommodate this group's parking needs without wasting valuable space.

During FY 2006, occupancy data were collected for all Census Bureau assigned reserved parking spaces twice daily over a five-week period. We

looked at the percentage of spaces occupied in the morning, afternoon, and those occupied at either time. Based on this study, our recommendation was that multiplying the current number of GS-15 or above employees by a percentage between 80% and 85% should provide a conservative estimate for the number of reserved parking spaces needed. The Census Bureau will use 85%. This project is complete.

Staff: Jeremy Funk (x34887), Tommy Wright

Statistical Computing Methodology

A. Record Linkage and Analytic Uses of Administrative Lists

Under this project, staff will provide advice, develop computer matching systems, and develop and perform analytic methods for adjusting statistical analyses for computer matching error.

During FY 2006, staff completed the research report "Overview of Record Linkage and Current Research Directions." We created a new version of *BigMatch* software that takes multiple input files. Staff ported the current version of *BigMatch* to VAX VMS for Decennial Census testing. Staff wrote new generalized imputation software that performs the methods of Little and Rubin (1987, Chapter 9), performs statistical matching under a slightly more general model than the model of D'Orazio, Di Zio, and Scanu (*Journal of Official Statistics* 2006), and allows extensions to very general edit/imputation (Winkler 2003) and certain analytic uses of administrative lists. The software should allow sophisticated modeling in a number of real world situations because it appears to be 20+ times as fast as R-modeling software that is based on ideas of Schafer (1997). The software is currently being tested at ISTAT in Rome, Italy and at the Census Bureau.

Staff: William Winkler (x34729), William Yancey

B. Editing

Under this project, staff will provide advice, develop computer edit/imputation systems in support of demographic and economic projects, implement prototype production systems, and investigate edit/imputation methods.

During FY 2006, staff reviewed Agnes Boskovitz's (Australia National University CS) proof of the correctness of the original set covering algorithm of Garfinkel, Kunnathur, and Liepins (GKL) (*Operations Research*, 1986) and a new algorithm that should be computationally faster than the original GKL algorithm. Boskovitz provided a new counter-example according to her interpretation of the GKL algorithm. Her counter-example differs from the counter-example of Winkler (1995) that corresponds to his interpretation. Winkler's counter-example was to GKL Theorem 1 that was GKL's main tool in proving the 'correctness' of their algorithm rather than to the GKL algorithm itself. Boskovitz's proof demonstrates that it is possible to use one ordering of the n fields rather than $n!$ orderings in the computationally intense NP-Complete problem. Her overall framework and algorithms provide the first correct proof of the GKL algorithm. Staff wrote notes regarding that proof and some of the subtle computational issues that may affect implementation.

Staff sent literature and user's guide documentation for the GenBounds (implicit edit generation) software to the Brazilian Statistical Institute.

Staff had completed specifications for the editing of the 2006 Census test implemented through CANCEIS using decision logic tables.

Staff: Yves Thibaudeau (x31706), Bor-Chung Chen, María García, William Winkler

C. Machine Learning

Under this project, staff will investigate various methods from the artificial intelligence literature such as data mining, Bayesian networks, Hidden Markov Models, and semi-supervised learning from related computer science literature with applications to typical statistical agency problems, such as record linkage, edit/imputation, text classification for industry-and-occupation coding, microdata confidentiality, and sampling.

During FY 2006, staff refereed four papers, reviewed and wrote supporting letters for a National Science Foundation proposal from a computer science professor in the U.S. and a European Union Five-Year Research Proposal from a computer science professor in France. Staff provided a formal review of machine learning research of a computer science professor in Australia.

Staff: William Winkler (x34729), William Yancey

D. Developed Software Support

D.1. General Variance Estimation Development and Support

This project will develop new methods and interfaces for general variance estimation software including VPLX, WesVar, and SUDAAN. Staff will provide support for complex applications such as the Survey of Income and Program Participation and the

Survey of Construction, create training materials, and provide training for variance estimation software applications.

During FY 2006, staff continued to offer ongoing hotline support for variance estimation software to the four program directorates at the Census Bureau. Staff continued to work toward benchmarking five statistical packages in variance estimation: VPLX, WesVar, SUDAAN, SAS, and R. We were requested to provide customized variance estimation (VPLX) training to the Population Division and the Manufacturing and Construction Division.

Staff: Aref Dajani (x31797), Mary Ann Scaggs, Ned Porter, Bob Fay (DIR)

D.2. SRD Portal Development

This project develops a web-based application to provide user-controlled knowledge management. Portals will provide access to a wide range of web-enabled applications, will bring together diverse data sources, and will provide secure access to existing information, regardless of where the information resides. Our division's research portal will ultimately become an integrated starting point for accessing all division images and applications.

During FY 2006, several early adopters became Page Group Administrators for their respective staffs. Both a developmental and production portal page were established on a Linux machine where staff used the Oracle Export/Import procedure to transfer material from the developmental to the production page. Novice, Advanced, and Page Group Administrator's Tutorials were placed on the portal for internal education.

In the end, it was determined that the Oracle Portal product did not best serve the needs of our division. Staff converted our division's web page to an HTML environment that would be easier to maintain.

Staff: Mary Ann Scaggs (Retired in FY 2006), Aref Dajani, Ned Porter

E. Statistical Computation for Longitudinal Employer-Household Dynamics (LEHD)

The Longitudinal Employer-Household Dynamics project is a cooperative effort among several areas of the Census Bureau to combine federal and state economic data with demographic data. Sources of data include the American Community Survey, IRS, and Social Security data. Using this data, researchers will now be able to perform analyses that help disentangle the effects of choices that firms make from the choices workers make.

During FY 2006, a new sequential version of the cg2 fixed effects model program was optimized for the SGI Altix, making the program about 2.5 times faster. Preliminary investigation of improved MPI and Open MP versions of the fixed and mixed effects model programs has begun.

Staff: Rob Creecy (x33207), Chris Blakely

F. Missing Data and Imputation: Multiple Imputation Feasibility Study

Methods for imputing missing data are closely related to methods used for synthesizing missing item for disclosure limitation.

During FY 2006, staff developed a technique to impute multiple times the missing items of residents of Group Quarters (GQs). The imputation model is based on a multinomial likelihood. A polytomous logit linear function links the parameters of the multinomial likelihood to the data. Hyperparameters are specified to provide parameters with a prior distribution. Because the number of parameters to be updated is small, this application can provide multiple imputations (MI) at a lower geographical level than traditional hot-deck imputation. In addition, MI-based variance estimates are automatically adjusted for the additional uncertainty caused by unreported values. The procedure was proposed by a Duke University researcher (2005) in the context of disclosure protection, and many other authors in a more general context.

We have expanded our modeling software to support generalized additive models (via the R package GAM). Using the expanded software, we have performed a series of simulations to analyze the statistical validity of our models within the paradigm of microdata releases. In particular, we have analyzed the coverage probabilities of multiple-imputation-based confidence intervals for population parameters of interest.

Staff: Rolando Rodríguez (x31816), Yves Thibaudeau, Bor-Chung Chen

G. Optimizing Field Operations

This project is intended to provide the Field Division with a resource for new research in areas that will improve its processes. Over time, research topics may include modeling or forecasting. The first project will study the use of operations research techniques to improve the ability to predict survey costs and response rates in the field.

During FY 2006, staff obtained the 2004 National Health Interview Survey (NHIS) contact history instrument (CHI) data and the detailed interview length data, the 1990 NHIS Unit Control File (UCF) and specifications from Demographic Surveys

Division staff. These data sets were used to perform the input analyses of the simulation model of the NHIS field operation. The input analyses completed are (1) the outcome frequency distribution, and (2) the interview length distribution for each of the nine outcomes that require an interview length. We observed that the interview lengths for each of the nine outcomes are independent samples using the scatter diagram. This observation of the independent samples simplified the interview length data analyses in the modeling of the interview length distributions. We tested the distributions using the probability plots (or Q-Q plots), chi-square tests, Kolmogorov-Smirnov tests, Cramer-von Mises tests, and Anderson-Darling tests. We found that gamma, Weibull, or lognormal distributions are reasonable fit for six of the nine outcomes modeled. The other three outcomes' interview length distributions will be based on the empirical distributions in the simulation model. All the parameters of the fitted distributions were also estimated. The results of the input data modeling were documented in Section 5 of "Stochastic Simulation of Field Operations in Surveys" dated October 4, 2006.

Staff: Bor-Chung Chen (x34857)

Survey Methodology

A. Usability Research and Testing

A.1. Web Applications Accessibility

This project focuses on the accessibility of Internet and Intranet applications by blind and low vision users in accordance with the Section 508 regulations.

Section 508 Implementation Team: This inter-divisional team's purpose is to raise awareness of the Section 508 laws through on-line training and dissemination of information.

During FY 2006, the team met to create general Section 508 awareness training that all employees will be required to take. We decided to modify the IRS training we considered last year and deleted citations about sections 501 and 504, which we determined would be irrelevant. We determined what types of quiz questions were needed to test a Census employee's understanding of the material. Staff created a screen shot of one of the Thrift Savings Plan pages along with a recording of the JAWS screen reader speaking some of the text for inclusion in this training. Staff completed the section on accessibility testing for the guide the team is preparing for use at the Census Bureau.

Staff also performed an accessibility evaluation (*Human-Computer Interaction Memorandum Series #100*) of the Section 508 Awareness Training course which will be available on the Learning Management System to all Census employees. We identified a software tool to check accessibility of PDF documents called CommonLook. Staff assisted in planning for Disability Awareness Month in October 2006 and created ten Section 508 tips for use in email broadcast messages throughout the month.

Longitudinal Employer (Household) Dynamics (LED/LEHD) Web Site: This application permits users to generate tables from the "On The Map" application.

During FY 2006, the evaluation revealed column headers were announced twice by the screen reader, row headers were not associated with secondary row headers, and abbreviated words in row stubs were not accessible. A report (*Human-Computer Interaction Memorandum Series #96*) was delivered to the sponsor. This project is complete.

Movable Type Web Log Application: The Movable Type Web Log application allows users to quickly post web logs, or blogs, to the Internet or Intranet. It allows flexibility in the arrangement of categories and can monitor the activity on the blog web site.

During FY 2006, work began on testing the accessibility of this application. It was found that the application had inaccessible components. On several screens, link elements were being read in an unexpected order, right to left, instead of left to right. Options from a pop-up window were still being detected by the screen reader even though the window was closed and no longer visible. Check boxes were not labeled on several screens. The method by which a group of links could be bypassed, a skip link, was not provided in this software. Skip links were not created in the blog web sites generated by this application. A report (*Human-Computer Interaction Memorandum Series Memo #99*) was delivered to the sponsor. This project is complete.

E-Learning IT Security Awareness Training: This application provides information about IT security awareness for Census Bureau employees and contractors and tests their knowledge with a quiz. It is mandatory and all personnel must take the training annually.

During FY 2006, videotapes from 16 test sessions were logged. Staff met to consolidate these findings for each training screen for the usability report. We found that test participants believed that they needed to read the content of each link because it was present on the screen. They felt this would take them longer than the 30 minutes mentioned at the beginning of the course. Also, test participants had

difficulty logging on, exiting the course, and getting their completion certificate. Findings were detailed in a report (*Human-Computer Interaction Memorandum Series #97*) and delivered to the sponsor.

CAPS Oracle Forms Server: This application provides on-line forms to enrolled users of the system.

During FY 2006, we installed the application and did some preliminary testing. It was found that tabbing did not function, rendering the entire application inaccessible. This evaluation will resume next quarter once the Economic Statistical Methods and Programming Division staff completes converting CAPS to Oracle version 10g and applies software patches to enable access by screen readers.

Round 2 2005 National Census Test: Testing revealed topics in the help pop-up window were inaccessible. Alternate text for abbreviated words were not spelled out completely and were not understandable to the screen reader user. Some terms, such as Person1 name, and "related" were improperly associated with their answer options. These problems, and others, were detailed in a report (*Human-Computer Interaction Memorandum Series #88*) which was delivered to the sponsor. This project is complete.

Survey of U.S. Census Bureau's Foreign Trade Division's AESPCLINK On-line Training October 2005/Survey of Participants in the U.S. Census Bureau's 2005 Software Engineering Process Group (SEPG) Conference: Testing revealed that the SEPG survey had radio button answer options and data input fields which were inaccessible. Also, the AESPLINK survey had incomplete labeling for data input fields.

During FY 2006, we noted that the labeling was incomplete because it consisted of an initial question "stem" which was not associated with the text of each of the response "leaves." These issues, and usability issues, were compiled into a report (*Human-Computer Interaction Memorandum Series #95*) and provided to the sponsor. This project is complete.

Decennial Census Challenge Computer Based Training Application/Learning Roles and Responsibilities Computer Based Training Application: These applications provide training to Census managers for their work in the upcoming Decennial Census in 2010.

During FY 2006, we noted that both applications had similar accessibility problems that needed to be resolved. Navigational skip links, which allow screen reader users the ability to bypass lists of menu links, were not used. Images on course screens did not have alternate text associated with them, which would allow a screen reader user the ability to get information about what was shown in the image. Image links, which can be clicked on just like text links, had text labels that did not match text detected by the screen reader software. Reports were delivered to the sponsor (*Human-Computer Interaction Memorandum Series #101 and 102*). This project is complete.

AESDirect (Foreign Trade Division): AESDirect permits exporters to declare the value of goods they are sending to foreign countries.

During FY 2006, besides the AESDirect web application, accessibility evaluations were also performed on AESPcLink, the installation wizard for the AESDirect tutorial, the AESDirect tutorial, and the AESDirect certification quiz. The initial evaluation showed these applications were inaccessible because color was used to identify completion status and text within graphics was not detected by the screen reader. A report is underway and will be completed during the first quarter of FY 2007.

Transportation Survey (Administrative and Customer Services Division): We were requested to provide comments on a draft of a Broadcast message and survey. During FY 2006, we provided written comments on these two forms.

Environmental Protection Agency PDF Assistance: EPA asked us how to handle accessibility of PDFs.

During FY 2006, we responded we an email with a sample statement on whom to contact for problems.

ACSD Web Page Review: During FY 2006, staff provided language for use on a screen where PDFs were present, in order to comply with Section 508 regulations.

Table Generation Software Compliance Evaluation (Foreign Trade Division): During FY 2006, staff evaluated two types of tables generated by an off the shelf program in two rounds of testing. The first round of testing revealed problems in the nesting of row stub categories. Round two testing revealed these problems were addressed and the tables were compliant with Section 508 regulations.

Accessibility of Excel Spreadsheets (Systems Support Division): During FY 2006, staff researched the question of accessibility of Excel spreadsheets on the web. It was found that Excel was not accessible and recommended HTML tables be created in order to be compliant with Section 508 regulations.

Instructions on Usage of Drop-down Menu Controls for Screen Readers (Systems Support Division): During FY 2006, staff researched what commands were used by the two leading screen readers, JAWS and Window-Eyes, to access options in drop-down (combo box) menus for selecting a Division on the Census Intranet home page. It was discovered that the commands were identical, and the

instruction was placed on the control. Staff tested and verified the instruction was placed properly on screen with the JAWS screen reader.

Button Link for Title 13 Awareness Computer Based Training (Systems Support Division): During FY 2006, staff recommended changing the yellow text on a blue button to white text on the blue button, for improved contrast for users with a color deficit.

Staff: Larry Malakhoff (x33688)

A.2. Desktop Applications Accessibility

This project focuses on accessibility of desktop applications by blind and low vision users in accordance with the Section 508 regulations. Desktop applications are either downloaded or sent to the respondent on disk.

X-12 ARIMA Graphing Application: This application generates graphs from X-12 ARIMA data. The application can be downloaded by the X-12 user community. The application is a text file in which the user can modify values of parameters to submit to the SAS program. The text file can be accessed through MS-Notepad and the JAWS screen reader. An HTML file contains documentation.

During FY 2006, the evaluation consisted of making recommendations for making the documentation accessible. One recommendation was to replace the task of editing a text file with completing entries in a graphical interface. This recommendation was accepted and work will continue when the application is ready for testing.

X-12 ARIMA Batch Submission Application: This graphical user interface permits users to submit batch jobs to the X-12 ARIMA application. The staff was contacted by the Economic Statistical Methods and Programming Division to evaluate a preliminary version of the interface.

During FY 2006, it was found that tabbing was not in proper order on some screens. This work is on hold until the new version becomes available.

HTMLTidy Validator: Our division's Time Series Research Group requested the expertise of the accessibility lab to evaluate X-12 ARIMA table output after passing through the HTMLTidy validator software.

During FY 2006, we found that the HTMLTidy validator made tables with simple or one level of header or row stubs accessible. Tables with nested headers or row stubs were not vocalized by the screen reader in the visual order. Table markup was correct, so this is a problem with the screen reader. This project is complete.

Staff: Larry Malakhoff (x33688)

A.3. Web Forms Usability Testing

This project focuses on usability testing for Census Bureau Internet and Intranet forms.

Oracle Forms: A request came from the Commerce Business Systems Support Center on how to test if an Oracle form was accessible.

During FY 2006, staff instructed the requestor on how to conduct a simple test to determine if a form generated by Oracle was accessible. The screen reader did not detect labels for data entry fields. This project is complete.

Publication Request Form: This web form permits users to request up to seven publications.

During FY 2006, the evaluation determined that although there were labels over each column of data entry fields, a screen reader user would not know how to proceed because individual data entry fields were not labeled. This finding was conveyed to the Administrative and Customer Services Division and was addressed. This project is complete.

Staff: Larry Malakhoff (x33688)

A.4. Redesign of the Census Bureau's Intranet

The original purpose of this project was to reorganize the content of the Census Bureau's Intranet so that similar content is grouped together under functional categories. Our division's role was to conduct usability testing and provide recommendations on the redesign of the Intranet. About six months after the redesigned site was launched, the Intranet Staff in the Systems Support Division (SSD) asked us to conduct another round of usability testing to evaluate the new design from the users' perspective.

During FY 2006, just prior to the launch of the redesigned site, we conducted two focus group sessions to obtain feedback on changes that the design team was planning to include in the redesign. After some tweaking based on results of the focus group, the redesigned site was launched. In June of 2006, we began a new round of usability testing using a new set of tasks, as documented in a detailed report to SSD. We identified numerous usability issues and provided recommendations for resolving them. For example, we found that test participants could not find information on Census policies; and we recommended making the policies link more visible. The SSD design team made multiple changes to the redesigned site based on the results of this latest round of usability testing.

Staff: Betty Murphy (X34858), Amira Abdalla, Nell Pawlenko, Erica Olmsted-Hawala

A.5. Support for New Statistical Abstract Website

The staff is supporting the design of a new website for the *Statistical Abstract of the United*

States as it moves from giving access through a PDF version of its printed publication to a document-based portal.

During FY 2006, staff continued research on information architecture of the new site and ways of implementing a system that will enable users to traverse through the multiple dimensions of the data made available.

Staff: Juan Pablo Hourcade (now with the University of Iowa)

A.6. Collaboration with Iowa State University: Understanding the Role of Spatial Cognition in the Use of Map-Based Survey Software

Our division's role is to collaborate with researchers from Iowa State University in investigating the role of spatial cognition in performing location-dependent survey tasks with the support of mobile computers. An objective is to develop a computer-based cognitive model of user interaction with map software on mobile computers. The model will express observed and hypothesized relationships between spatial cognition and map interface use in location-dependent survey tasks. A benefit of the model will be its ability to predict the human-performance effects of alternative designs of the mapping software user interface.

During FY 2006, we provided technical guidance on the development of the cognitive model; reviewed drafts of a National Science Foundation grant proposal; and suggested alternative explanations for findings of Evaluation 3 of the 2006 Census Test, which investigated the role of spatial ability in enumerator/lister accuracy and efficiency. A significant correlation was found between low spatial ability and computer down time. Support for this project ended in the fourth quarter.

Staff: Elizabeth Murphy (x34858)

A.7. Census.gov Template Development

The purpose of this study is to develop a set of templates with a consistent and usable look and feel for the Census.gov Website. The template is intended to be used by both the demographic and economic domains of Census.gov. Some of the techniques to develop the template include card sorting, low-fidelity prototype testing, and usability testing.

During FY 2006, staff used two different usability methods to improve the Census.gov templates. First we used card sorting to identify the information architecture of the Web site. In doing this, we met with the website development team to discuss typical users and tasks, compiled a list of 99 terms that are representative of terms found on Census.gov website, conducted and ran 13 users through an open card sorting study. Based on this study, we determined the 10 main categories to use in the Round 2 of the card-sorting study. We conducted a closed sort for Round 2 with 14 different users and 90 terms. The results, in brief, showed that in general users did consistently place many of the same cards in the same high-level categories. These results help validate our 10 high-level categories as being usable link categories for the Home page of Census.gov. In addition, many of the terms that were placed in more than one category were consistently placed in the same alternate categories. (It is likely then that these terms should be located in more than one place on the web site.) We recommend mocking up a template of the first and second level pages with the 10 high level topics. Staff presented results to the group and finalized main topic headings to include on the Census.gov main page.

The second method we used was iterative low-fidelity prototype usability testing. Based on the results of the card sorting studies, we worked on developing a topic page template of the income and transportation/warehousing pages. We identified and recruited typical users of the topic-based pages and created typical tasks for the topic pages. The study uncovered a number of design issues that could easily be resolved in the prototype phase of development. We wrote a usability report including the mock-up of alternate design options for the team to consider.

There were 10 usability problems and solutions discussed in the report. An example of a finding follows: There was not a clear distinction of what type of information would be available in the "Links to Data," "Data Access," "Reports/Publications," and "Tools" section of the site. Some participants said they would go to one or the other of these areas interchangeably. While trying to find the information they were looking for, participants said it wasn't always clear which one would contain precisely the information they needed. One of our recommendations was to modify the "Links to Data" heading slightly, e.g., "Top X Links to Data," so that it will clue participants in that the listed tables are the popular ones, but are not the breadth of all tables in the topic. Another recommendation was to consider removing the "Data Tools" section from the topic page templates, as this is more of an expert participant area and will be available under the "Data Access" area of the site.

Staff: Erica Olmsted-Hawala (x34893) Amira Abdalla, Anshu Agarwal

A.8. ACSD Way-finding Kiosk for the New Building

This inter-divisional team's purpose is to develop a way-finding system for the new Census Bureau building. Our division's role is to assist the Administrative and Customer Services Division (ACSD) client in making an informed decision on choosing the contractor that will provide the most usable and accessible way-finding KIOSK for the new building. The system will be available on Census Bureau employees' desktop computers and one or more kiosks will be in place to help employees and visitors navigate around the new building. Once the contractor is selected, the usability lab will work with ACSD staff to bring usability and accessibility testing and a user-centered design perspective into the development of the device.

During FY 2006, staff met with ACSD team members to produce a list of typical user groups and tasks (e.g., finding an individual by name), and to set usability goals. Staff participated in two contractor demonstrations of the prototype software. We set up one of the kiosk systems in a usability lab testing room, and are waiting for the other system to begin usability testing. We collaborated with the client to help plan a study that would include usability and accessibility testing. We determined typical tasks a user may perform. However, we did not run the study because the client was unable to get all the kiosks needed for testing. This study is on hold.

Staff: Erica Olmsted-Hawala (x34893), Larry Malakhoff

A.9. Expert Review of the Redistricting Office Web Site

The purpose of this study was to give an expert review of a domain of Census.gov that had recently made some design changes. As time permits, the client may return to the lab for additional assistance.

During FY 2006, usability staff worked with the client to gain an understanding of typical users and tasks. Staff then conducted a heuristic review of the web site taking into consideration typical users and tasks, as well as internet conventions. Staff compiled a list of usability problems based on the expert review, and identified possible solutions to the problems. Staff wrote and sent the client a report with the results, recommendations and an offer for additional usability lab support as the development and updating of the site continued.

Seventeen usability problems were discussed in the report. An example of one finding and the recommendation follows: At a standard screen setting of 800 by 600, the site requires horizontal scrolling, which is something to avoid. Horizontal scrolling disrupts reading and is time consuming for users. Users don't like to use the horizontal scroll and often get spatially disoriented if they must use both the horizontal and vertical scroll. Our recommendation was to re-size page content to fit on the 800 by 600 screen. This way the horizontal scroll would not be an issue and users would be able to see all pertinent information. Fluid screen sizing (liquid layout as opposed to frozen layout) is ideal, as it adjusts to computers with different screen size and resolutions.

Staff: Erica Olmsted-Hawala (x34893), Betty Murphy

A.10. Usability Input to Coverage Follow-up (CFU) User-interface Requirements

Our division's role was to provide usability review of user-interface requirements for an Internet-based CFU instrument to be administered online by telephone interviewers. The CFU user-interface team developed the requirements in cooperation with the contractors, Z-Tech Corporation and Gunnison Consulting Group. When these requirements are delivered to the Decennial Response Integration System (DRIS) contractor, our division's role will be to respond to any usability questions raised by the contractor.

During FY 2006, following completion of the user-interface requirements for a Web-based CFU instrument and delivery of the requirements to the prime contractor (Lockheed Martin), members of the CFU user-interface design team became members of the DRIS Telephony Integrated Product Team (IPT). Working with the original core team, we planned and conducted a usability review of prototype screens (wire frames) at the Hagerstown Telephone Center. We prepared a preliminary report focused on findings and recommendations. Details of the purpose and methods as well as the findings and recommendations were documented in the final report, "2008 Coverage Follow-up (CFU) User-Interface Usability: Observations and Recommendations from Interviewer Review of CFU Wire Frames." The user-interface team discussed all recommendations and submitted a set of changes to the contractor.

Staff: Betty Murphy (x34858), Erica Olmsted-Hawala, Susan Ciochetto (DSCMO), Sarah Brady, Dave Shepherd, Elizabeth Krejsa (DSSD), Karen Piskurich (DMD)

A.11. AES*Direct* (Automated Export System) Computer Self-Administered Questionnaire: Foreign Trade Division Web Site Re-Design

The purpose of this study is to identify usability problems with the AES*Direct* Computer Self-Administered Questionnaire (CSAQ). The team members are interested in redesigning problem areas of the site, and before they begin they would like a

baseline study on how users perform (accuracy and efficiency measures) and a subjective satisfaction rating of the site.

During FY 2006, we reviewed AES*Direct* staff's draft materials for a presentation on usability problems with the current site. To bolster the presentation information, we created a novice task scenario and ran one user through the task to identify, with video clip highlights, areas of the site where users experience problems when trying to file an electronic shipper's declaration. In preparation for the baseline usability study, staff wrote an AES*Direct* usability test plan which included information on AES*Direct* typical users, tasks, usability goals for the tasks and users and the general protocol for the usability study. The test plan was circulated to team members for review. We ran nine novice users through the study and wrote a report of our findings. We identified seven high-priority problems, such as user problems with getting started, filling out the CSAQ, submitting and saving data, questionable Help, confusion with links, and a preponderance of Census jargon throughout the questionnaire. For each problem we offered both short- and long-term solutions.

Staff: Erica Olmsted-Hawala (x34893), Betty Murphy, Alex Trofimovsky

B. Questionnaire Pretesting

This project involves coordinating the Census Bureau's generic clearance for questionnaire pretesting research. Pretesting activities in all areas of the Census Bureau may use the clearance if they meet the eligibility criteria.

During FY 2006, 34 letters describing activities conducted under the generic clearance for pretesting research were submitted to OMB. These activities involved 1,989 respondent burden hours.

Staff: Terry DeMaio (x34894)

C.1. Questionnaire Design Experimental Research Survey 2003 (QDERS)

QDERS 2003 is an omnibus survey designed to facilitate independent research related to questionnaire design issues, interviewer training, and other survey methodological issues. The QDERS 2003 was conducted from the Tucson Telephone Center in June/July 2003 using a Random Digit Dialing (RDD) sample.

During FY 2006, data analysis of the experiments contained in QDERS 2003 continues to be conducted and summarized in conference papers and project reports.

Staff: Jennifer Rothgeb (x24896), Joanne Pascale, Ashley Landreth, Terry DeMaio

C.2. Questionnaire Design Experimental Research Survey 2004 (QDERS)

QDERS 2004 is an omnibus survey designed to facilitate independent research related to questionnaire design issues and other survey methodology issues. The QDERS 2004 will be conducted from the Census Bureau's Telephone Center using an RDD sample. Researchers conducting questionnaire design and survey methods experiments are participating.

During FY 2006, analysis of the data continues for inclusion in research papers and conference presentations. Analysis of the cohabitation questions led to recommendations going for inclusion of a cohabitation question on the Current Population Survey (CPS). The recommendations were accepted and the cohabitation question will be included in the CPS beginning in January 2007.

Staff: Jennifer Rothgeb (x34986), Joanne Pascale, Jenny Hunter Childs, Nancy Bates (DSD)

C.3. Questionnaire Design Experimental Research Survey 2006 (QDERS)

QDERS 2006 is an omnibus survey designed to facilitate independent research related to questionnaire design issues and other survey methodology issues. The QDERS 2006 will be conducted from the Hagerstown Telephone Center. The focus of the 2006 QDERS is an questionnaire design experiment examining different ways to determine a person's place of residency on Census day.

During FY 2006, we contracted with Research Triangle Institute (RTI) to author the QDERS 2006 survey instrument in Blaise. We provided questionnaire specifications for a Blaise instrument to RTI. Due to budget constraints, we scaled back the project plan from three interview periods to a single interview period with 2 treatments, with fewer sample cases than originally planned. We completed multiple tests of the survey instrument and provided comments to RTI for instrument revisions. We developed output specifications which were discussed internally with staff and with RTI, who is providing a SAS program to convert the ASCII dataset into a SAS dataset. We tested the output and provided comments to RTI. Data collection is scheduled for November 3 - 13, 2006. To facilitate analysis, we included an interviewer debriefing at the end of the instrument. In addition, 200 interviews will be taped and we will conduct behavior coding of the taped interviews. We will analyze the data and prepare a report documenting the findings.

Staff: Jennifer Rothgeb (x34968), Jenny Hunter Childs, Beth Nichols

D. Language: Interdisciplinary Research on Language and Sociolinguistic Issues Relevant to Survey Methodology

There is a need for both qualitative and quantitative interdisciplinary research on how to best develop and successfully use non-English language collection instruments and other survey materials. Interdisciplinary research is also needed to determine the quality of the data that respondents with little or no knowledge of English provide the Census Bureau using both non-English and English language data collection instruments.

During FY 2006, we conducted research necessary to develop the Census Bureau interpretation guidelines. We completed a literature review on interpretation theories and practices and have conducted a web search of best practices and policies regarding the use of interpreters by survey organizations around the world. Literature review and web search findings showed that there is a lack of guidance of how interpreters should be used for survey interviews and that there is a need to develop guidelines to ensure the quality of data collected from households who speak little or no English. A paper summarizing the results of the literature review and web search was presented at the Federal Committee on Statistical Methodology.

We also started a project to investigate the effects of interactional differences in cross-cultural communication on survey translation. We have been working collaboratively with researchers at Westat to conduct an experiment with three groups of translators in three languages (Spanish, Chinese, and French) to compare the effect of different sets of instructions on translation quality. We completed the translation exercise and the evaluation of translations in three languages. We plan to conduct statistical analysis to evaluate the results.

We have been working closely with an international group of researchers who are members of the Comparative Survey Design and Implementation (CSDI) group, on the development of interpretation guidelines, cognitive testing in non-English languages, and translation issues. Staff acted as one of the organizers for a multilingual issues interest group for the American Association for Public Opinion Research. Staff participated in the discussion and analysis of the results from the CSDI survey on survey translation and interpretation.

Staff: Yuling Pan (x34950), Manuel de la Puente, Patti Goerman, Diana Simmons

E. Training for Cognitive Interviewing

Staff will train members of other divisions in the Census Bureau to carry out cognitive interviewing and provide consultation and support for projects which they carry out.

During FY 2006, two training sessions were carried out, one in January and one in June. Each session was three days long, and included theoretical background and practice interviews. A total of 11 people were trained, from the Statistical Research Division, the Decennial Statistical Support Division, the Population Division, and the Director's Office.

Staff: Eleanor Gerber (x34890)

F. Research on Cognitive Testing of Non-English Language Survey Instruments

As part of a postdoctoral research fellowship, the staff is currently engaged in a study designed to test and identify best practices for conducting cognitive interviews with Spanish-speaking respondents. We are testing both widely accepted and new techniques and probes (e.g., "What does the term *foster child* mean to you in this question?") with Spanish-speaking respondents of high and low educational levels. The research is based on a segment of the CAPI version of the American Community Survey. Future applications of this research should extend to cognitive interview techniques for use with respondents who speak additional non-English languages.

During FY 2006, staff conducted a total of 50 interviews with Spanish-speaking respondents in Texas and worked on analysis of the results. Staff created a modified behavior coding scheme for use in analyzing the interviews. The coding scheme includes keeping track of such issues such as whether each respondent understood a cognitive interview probe (e.g., "How did you arrive at that answer?") the first time he/she heard it, whether a given probe needed to be reworded, and whether the probe resulted in information that was useful to assist in evaluating the survey question.

Staff: Patti Goerman (x31819), Diana Simmons

Research Assistance

This staff provides research assistance, technical assistance, and secretarial support for the various research efforts.

Staff: Tina Arbogast, Allice Bell, Joyce Farmer, Judi Norvell, Barbara Palumbo, Gloria Prout, Lorraine Randall, Diana Simmons

3. PUBLICATIONS

3.1 JOURNAL ARTICLES, PUBLICATIONS

Aston, J. A. D. and Martin, D. E. K. (2005). "Waiting Time Distribution of Competing Patterns in Higher-Order Markovian Sequences," *Journal of Applied Probability, 42*, 977-988.

Childs, J. H. and Landreth, A. D. (2006). "Analyzing Interviewer/Respondent Interactions While Using a Mobile Computer-Assisted Personal Interview Device," *Field Methods, 18*(3), 335-351.

de Wolf, V., Sieber, J., Steel, P., and Zarate, A. (2006). "Part III: Meeting the Challenge When Data Sharing is Required," *IRB Ethics & Human Research, 28*(2), 10-15.

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Kleiner, B. and Pan, Y. (2005). "Cross-Cultural Communication and the Telephone Survey Interviews." In J. Harkness (Ed.), *Conducting Cross-National and Cross-Cultural Surveys (ZUMA Special Issue 12)*, 81-90. Mannheim, Germany.

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Malec, D. J. (2005). "Small Area Estimation From the American Community Survey Using a Hierarchical Logistic Model of Persons and Housing Units," *Journal of Official Statistics, 21*(3), 411-432.

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Slud, E. and Maiti, T. (2006). "MSE Estimation in Transformed Fay-Herriot Model," *Journal of Royal Statistical Society Series B, 68,* 239-257.

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Wright, T. (2005). "U.S. Bureau of the Census," *Encyclopedia of Statistical Sciences, 2nd Edition* (Eds. N. Balakrishnan, C. B. Read, and B. Vidakovic), Hoboken, NJ: Wiley Publishers, 8902-8916.

3.2 BOOKS/BOOK CHAPTERS

Goerman, P. L. (2006). *The Promised Land? The Lives and Voices of Hispanic Immigrants in the New South*, New York & London: Routledge.

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Schwede, L., Blumberg, R., and Chan, A. (Eds.) (2006). *Complex Ethnic Households in America*, New York: Rowman & Littlefield. Includes the following chapters by authors in our division:

- Blumberg, R. and Schwede, L. "The Recent Arrivals: Latinos and Koreans," pp. 116-126.
- Chan, A. "The Way We Live: Complex Ethnic Households in America," pp. 1-20.
- Childs, J. H. "Not the Typical Household: Whites in Rural New York," pp. 217-247.
- Goerman, P. L. "Making Ends Meet: The Complex Household as a Temporary Survival Strategy Among New Latino Immigrants to Virginia," pp. 149-180.
- Schwede, L. "Who Lives Here?," pp. 280-320.
- Schwede, L. and Blumberg, R. "The First Arrivals: Navajo and Inupiaq Eskimos," pp. 21-38.
- Schwede, L. and Blumberg, R. "African Americans and Whites," pp. 181-196.

3.3 PROCEEDINGS PAPERS

2005 American Association for Public Opinion Research Meeting, South Miami Beach, FL, May 12-15, 2005.
2005 Proceedings of the American Statistical Association.

- Hunter, J. E. and Landreth, A. (2005). "Person-Based Data Collection in Practice: An Evaluation of Interviewer/Respondent Interactions," 3874-3881.

2005 Conference, Usability Professionals' Association, Montreal, Canada, June 27-July 1, 2005.

- Olmsted, E. and Gill, M. (2005). "In-person Usability Study Compared With Self-administered Web (Remote—Different Time/Place) Study: Does Mode of Study Produce Similar Results?" (Also found at: http://www.upassoc.org/usability_resources/conference/2005/olmsted-poster_paper.doc)

2005 Joint Statistical Meeting (American Statistical Association), Minneapolis, MN, August 7-11, 2005.
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- Beatty, P., Willis, G., Hunter, J. E., and Miller, K. (2005). "Design of the Q-Bank: Determining Concepts, Content, and Standards," 981-988.
- Findley, D. F., Wills, K., and Monsell, B. C. (2005). "Issues in Estimating Easter Regressors Using RegARIMA Models with X-12-ARIMA," 837-844.
- Hawala, S. (2005). "Disclosure Avoidance and Data Mining: A Perspective of a Federal Statistical Agency," 1146-1154.
- Hunter, J. E., Redline, C., Morrison, R. L., Willimack, D. K., and Sangster, R. (2005). "Broadening the Horizons of Q-Bank: Expanding the Framework to Encompass Self-Administered and Establishment Surveys," 1171-1182.
- Karl, L., Krejsa, E., and Landreth, A. (2005). "Design of the Census 2004 Coverage Research Followup Questionnaire," 3172-3179.
- McElroy, T. S. (2005). "Statistical Properties of Signal Extraction Diagnostics," 919-925.
- Malec, D. and Maples, J. J. (2005). "An Evaluation of Synthetic Small-Area Census Coverage Error Using a Random Effects Model," 3355-3362.
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- Massell, P. B. (2005). "Comparing Ways of Using 'Protection Flow' to Protect Magnitude Data Tables from Disclosures," 1330-1337.
- Moore, J. C. and Bowie, C. E. (2005). "Striving for Data Quality: Pat Doyle's Legacy at the U.S. Census Bureau," 1360-1363.
- Mulry, M. H., Schindler, E., Mule, T., Nguyen, N., and Spencer, B. D. (2005). "Investigation of Extreme Estimates of Census Coverage Error for Small Areas," 3414-3421.
- Thibaudeau, Y., Chen, I. I., and Sands, R. D. (2005). "Measuring the Discriminatory Power and Bias of Imputation Methods Designed for Imputing Status and Occupancy Status," 3633-3638.
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- Williams, T. R. (2005). "The Development of Truth Decks for the 2010 Census Count Imputation Research," 3669-3675.
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- Steel, P. (2005). "Issues in Designing a Confidentiality Preserving Model Server."
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- Goerman, P. L. (2005). "Adapting Cognitive Interview Techniques for Use in Pretesting Spanish Language Survey Instruments."
- Murphy, E. D., Ciochetto, S., and Bateman, C. I. (2005). "Redesigning and Evaluating the Census Bureau's Intranet Site for Usability: Methods and Lessons Learned."
- McElroy, T. S. (2005). "Model-Based Seasonal Adjustment Diagnostics."
- Pan, Y. (2005). "Development of Guidelines on the Use of Interpreters in Survey Interviews."

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- McElroy, T. and Gagnon, R. "Finite Sample Revision Variances for ARIMA Model-Based Signal Extraction."
- Monsell, Brian C. "Recent Developments in Seasonal Adjustment Software at the Census Bureau."

3.4 STATISTICAL RESEARCH DIVISION RESEARCH REPORTS

RR (Statistics #2005-08), Carol Caldwell, Irene Evans, Andromache Howe, Michael Ikeda, Donald Luery, Terry Pennington, Mark Sands, Richard Sigman, and Katherine Thompson, "Investigation of Alternative Estimators for the Quarterly Financial Report," October 23, 2005.

RR (Statistics #2005-09), William Winkler, "Re-identification Methods for Evaluating the Confidentiality of Analytically Valid Microdata," October 3, 2005.

RR (Survey Methodology #2005-10), Maria Bruun and Jeffrey Moore, "SIPP Wave 1 Asset Income Item Nonresponse Results and Nonresponse Follow-Up Outcomes," October 3, 2005.

RR (Survey Methodology #2005-11), Elizabeth Murphy, "Steps Toward Integrating Accessibility into Development of an Internet Option for the 2010 U.S. Census," October 5, 2005.

RR (Statistics #2005-10), Tucker McElroy and Scott Holan, "A Nonparametric Test for Assessing Spectral Peaks," December 20, 2005.

RR (Survey Methodology #2006-01), Jeffrey C. Moore, "The Effects of Questionnaire Design Changes on Asset Income Amount Nonresponse in Waves 1 and 2 of the 2004 SIPP Panel," January 4, 2006.

RR (Survey Methodology #2006-02), Jeffrey C. Moore, Nancy A. Bates, Joanne Pascale, Julia Klein Griffiths, and Aniekan A. Okon, "Use of Dependent Interviewing Procedures to Improve Data Quality in the Measurement of Change," January 13, 2006.

RR (Statistics #2006-01), William E. Winkler, "Modeling and Quality of Masked Microdata," February 3, 2006.

RR (Statistics #2006-02), William E. Winkler, "Overview of Record Linkage and Current Research Directions," February 9, 2006.

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RR (Statistics #2006-03), Mary H. Mulry, "Summary of Accuracy and Coverage Evaluation for Census 2000," February 28, 2006.

RR (Survey Methodology #2006-04), Jeffrey C. Moore, "The Effects of Questionnaire Design Changes on General Income Amount Nonresponse in Waves 1 and 2 of the 2004 SIPP Panel," March 1, 2006.

RR (Statistics #2006-04), Paul B. Massell, "Using Uncertainty Intervals to Analyze Confidentiality Rules for Magnitude Data in Tables," March 21, 2006.

RR (Statistics #2006-05), Tucker S. McElroy and Richard Gagnon, "Finite Sample Revision Variances for ARIMA Model-Based Signal Extraction," May 31, 2006.

RR (Statistics #2006-06), Tucker S. McElroy, "Statistical Properties of Model-Based Signal Extraction Diagnostic Tests," June 5, 2006.

RR (Survey Methodology #2006-05), Elizabeth A. Martin, Robert Fay, and Elizabeth Krejsa, "Analysis of Questionnaire Errors in Survey Measurement of Census Coverage," June 15, 2006.

RR (Survey Methodology #2006-06), Elizabeth A. Martin and Eleanor Gerber, "Methodological Influences on Comparability of Race Measurements: Several Cautionary Examples," June 26, 2006.

RR (Statistics #2006-07), William E. Winkler, "Data Quality: Automated Edit/Imputation and Record Linkage," July 12, 2006.

RR (Statistics #2006-08), Patrick Fitzsimmons (University of California, San Diego) and Tucker McElroy, "On Joint Fourier-Laplace Transforms," September 7, 2006.

RR (Statistics #2006-09), Tucker S. McElroy, "Exact Formulas for the Hodrick-Prescott Filter," September 7, 2006.

RR (Statistics #2006-10), David F. Findley, "Modeling Stock Trading Day Effects Under Flow Day-of-Week Constraints," September 19, 2006.

3.5 STATISTICAL RESEARCH DIVISION STUDIES

SS (Survey Methodology #2005-05), Jennifer Hunter Childs and Theresa DeMaio, "Report on Cognitive Testing of Tenure, Age, and Relationship Questions for the 2005 National Content Test," December 21, 2005.

SS (Survey Methodology #2005-06), Jennifer Hunter Childs, "Report on Cognitive Testing of Cohabitation Questions," December 21, 2005.

SS (Survey Methodology #2005-07), Jennifer Hunter Childs, "Cognitive Test of the 2006 NRFU: Round 1," December 21, 2005.

SS (Survey Methodology #2006-01), Ashley D. Landreth, Elizabeth Krejsa and Leann Karl, "Behavior Coding Analysis Report: Evaluating the Coverage Research Follow-Up (CRFU) Survey for the 2004 Census Test Administered Using Telephone and Personal Visit Survey Modes," January 25, 2006.

SS (Survey Methodology #2006-02), Ashley Landreth, Theresa DeMaio, and Andrew Jocuns, "Cognitive Interview Research Report Findings and Recommendations Resulting from Pretesting Activities with the Current Population Survey's High School Validation Study Questions," February 9, 2006.

SS (Survey Methodology #2006-03), Leslie Brownrigg, "People Who Live in Hotels: An Exploratory Overview," May 31, 2006.

SS (Survey Methodology #2006-04), Don A. Dillman, Cleo Jenkins (now Cleo Redline), Betsy Martin, and Theresa DeMaio, "Cognitive and Motivational Properties of Three Proposed Decennial Census Forms," July 17, 2006.

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SS (Survey Methodology #2006-06), Kristen Miller and Theresa J. DeMaio, "Report of Cognitive Research on Proposed American Community Survey Disability Questions," August 24, 2006.

SS (Survey Methodology #2006-07), Jennifer Hunter and Ashley Landreth, "Evaluating Bilingual Versions of the Non-Response Follow-Up (NRFU) for the 2004 Census Test," August 24, 2006.

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Beck, J. "Findings and Recommendations Resulting from the First Round of Pretesting for the 2006 Spanish Language Nonresponse Followup Survey," June 28, 2006.

Childs, J. H., Carter, G., Norris, D., Hanaoka, K., and Schwede, L. "Cognitive Test of the NRFU Round 3: Revised Questions," September 21, 2006.

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4. TALKS AND PRESENTATIONS

University of Virginia, Sociology Department, Charlottesville, VA, October 12, 2005.
- Patricia Goerman, "The Voices of Hispanic Immigrants in the New South."

University of Missouri, Statistics Department, Columbia, MO, October 23, 2005.
- Tucker McElroy, "A Nonparametric Test for Assessing Spectral Peaks."

World Usability Day, Washington, D.C., November 3, 2005.
- Betty Murphy and Erica Olmsted-Hawala, "Usability and Accessibility at the U.S. Census Bureau: Success Stories." Presented at a special event organized by the Usability Professionals Association (DC-Metro Chapter) for World Usability Day.

2005 Annual Conference, Federal Committee on Statistical Methodology, Arlington, VA, November 14-16, 2005.
- Yuling Pan, "Development of Guidelines on the Use of Interpreters on Survey Interviews."
- Lawrence Malakhoff, "InFocus and JAWS for Accessibility Testing."

Statistical Disclosure Avoidance Practice, Bureau of Labor Statistics, Washington, D.C., December 5, 2005.
- Philip Steel, Discussant.

National Research Council Workshop on Confidentiality, Washington, D.C., December 9-10, 2005.
- Laura Zayatz, "Data Confidentiality Issues from a Federal Agency Perspective."

Department of Statistics Colloquium Virginia Polytechnic Institute and State University, Blacksburg, VA, November 10, 2005.
- Donald Malec, "A Look at the Use of Random Effects Models for Evaluating U.S. Census Coverage Error."

International Seminar on Editing and Imputation, Rio de Janeiro, Brazil, November 28-December 2, 2005.
- María García, "Editing Economic Data in the SPEER System."

American Anthropological Association Meetings, Washington, D.C., November 30-December 4, 2005.
- Laurie Schwede, session organizer and presenter, "Turnabout is Fair Play: A New Approach to Studying Households, Ethnicity and Gender in the U.S.: Session Introduction."
- Jennifer Hunter Childs, "'Who's the Mother? It's the One Who Raises You': Complex Households and Relationships Among Rural, Middle-class Whites."
- Patricia Goerman, "Home is Where the Heart is: Gender and Family Life Among Latino Immigrants Living in Complex Households."

Second International Conference on Telephone Survey Methodology, Miami, FL, January 12-15, 2006.
- Mary Mulry, Discussant, "Sampling" session.
- Jennifer Rothgeb, Chair, "Mobile Phones" session.

Washington Statistical Society, Washington, D.C., March 15, 2006.
- Bill Winkler, "The State of Record Linkage." (Marianne Winglee [WESTAT] and Charles D. Day [SOI/IRS], discussants)

Tenth Annual Federal CASIC Workshop, Washington, D.C., March 14-16, 2006.
- Larry Malakhoff, "Accessible Web Survery Design."
- Betty Murphy, Susan Ciochetto, & Carol Bateman, "Redesigning and Evaluating the Census Bureau's Intranet Site for Usability: Methods and Lessons Learned."

Fourth International Workshop of Comparative Survey Design and Implementation, The Hague, Netherlands, March 16-18, 2006.
- Patricia Goerman, "Expanding our Toolkit of Cognitive Interview Techniques for Use with Spanish Survey Instruments."

- Yuling Pan, "Pretesting Translation of Survey Materials in Multiple Languages."

Fourteenth Annual Symposium of the Society for Nonlinear Dynamics and Econometrics, Washington University, St. Louis, March 24, 2006.

- Thomas Trimbur, "The Dynamics of Oil Price Movements and Their Relationship With Real GDP."

CitiCorp, NewYork City, NY, April 3-4, 2006.

- Brian C. Monsell, "Seasonal Adjustment with X-12-ARIMA."

University of Virginia, Nursing School, Charlottesville, VA, April 12, 2006.

- Patricia Goerman, "The Promised Land? The Lives and Voices of Hispanic Immigrants in Central Virginia."

Office of National Statistics, Newport, Wales (UK), April 20-21.

- William Winkler, "Record Linkage" (short course).

Q2006 Conference, Cardiff, Wales, (UK), April 25, 2006.

- William Winkler, "Data Quality: Automated Edit/Imputation and Record Linkage."

Southampton University, UK, April 28, 2006.

- William Winkler, "Overview of Record Linkage and Current Research Problems."

American Statistical Association San Antonio Chapter, San Antonio, TX, May 10, 2006.

- Phil Steel, "Checklist and Disclosure Avoidance Techniques." (Lecture in short course: "Privacy, Confidentiality, and the Protection of Health Data: A Statistical Perspective on Data Sharing.")

Seasonality, Seasonal Adjustment and Their Implications for Short-Term Analysis and Forecasting, Luxembourg City, Luxembourg, May 10-12, 2006.

- Tucker McElroy, "Finite Sample Revision Variances for ARIMA Model-Based Signal Extraction."
- Brian C. Monsell, "Recent Developments in Seasonal Adjustment Software at the Census Bureau."

Office of Management and Budget, Washington, DC, May 12, 2006.

- Laurie Schwede, "A Comparative Study of Complex Households in Six Race/Ethnic Groups."

61st Annual Conference of the American Association for Public Opinion Research, Montreal, Canada, May 18-21, 2006.

- Anna Chan, "Concern about Confidentiality and its Relationship to Subsequent Survey Participation in a Longitudinal Panel Survey."
- Terry DeMaio, Discussant, "Boosting Response Rates" session.
- Jennifer Hunter Childs, Ashley Landreth, and Carlos Arce, "Bilingual Behavior Coding in Practice."
- Patricia Goerman, "Cognitive Interview Methodology Revisited: Development of Best Practices for Pretesting Spanish Survey Instruments."
- Joanne Pascale, "Measuring Health Insurance in the U.S."
- Jennifer Rothgeb, Chair, "Data Quality as a Function of the Interviewer" session.

40th International Field Directors and Technologies Conference, Montreal, Canada, May 23, 2006.

- Larry Malakhoff, "Evaluation of E-Learning Training for Content & Usability," and "Usability Testing of Alternative Design Features for the Internet Census Short Form."

Meeting of the Interagency Response Error Group (Web Subgroup), Bureau of Labor Statistics, Washington, DC, May 24, 2006.

- Betty Murphy and Susan Ciochetto, "Usability Testing of Alternative Design Features for Web-based Data Collection: Selected Issues, Results and Recommendations."

Texas Christian University School of Education, Counseling Department, Forth Worth, TX, May 27, 2006.

- Mary Mulry, "Census Data for Research."

Federal Economic Statistics Advisory Committee, Washington, DC, June 9, 2006.

- Pat Cantwell and John Eltinge (Bureau of Labor Statistics), "Outliers and Influential Observations in Establishment Surveys."

2006 International Symposium of Forecasters, Santander, Spain, June 11-14, 2006.

- Tucker McElroy, "Coherent Signal Extraction for Time Series Observed at Diverse Sampling Frequencies."
- Brian C. Monsell, "Issues with the RegARIMA Modeling of Easter."

International Chinese Statistical Association Annual Meeting (ICSA 2006), Storrs, CT, June 14-16, 2006.

- Paul Massell, "What Does It Mean to Protect a Magnitude Data Table From Disclosures?"
- Phil Steel, "Relating Table Servers to Model Servers."

Sociolinguistics Symposium 16, Limerick, Ireland, July 6-8, 2006.

- Yuling Pan, "Cultural Variations in Deriving Meaning from Legally Required Information in Social Surveys" (paper co-authored with Ashley Landreth).

International Conference on the Methodology of Longitudinal Surveys, University of Essex, Colchester, U.K., July 12-14, 2006.

- Anna Chan and Jeffrey Moore, "The Impact of a Confidentiality Protection Policy on the Use of Dependent Interviewing in a Longitudinal Household Panel Survey: The Case of the Survey of Income and Program Participation."
- Jeffrey Moore, Nancy Bates, Joanne Pascale, and Aniekan Okon, "Tackling Seam Bias Through Questionnaire Design."
- Joanne Pascale, co-author (with Hayley Cheshire, National Centre for Social Research, U.K.), "Using Behaviour Coding to Understand the Effect of Dependent Interviewing on Data Quality."

Joint Statistical Meetings, American Statistical Association, Seattle, WA, August 6-10, 2006.

- Leroy Bailey, "Assessing the Effectiveness of Weighting Cell Adjustments for Longitudinal Nonresponse."
- Aref Dajani, Terry Maples, and Ron Fecso, "Nonresponse Bias Analysis of the 2003 National Survey of Recent College Graduates."
- Thomas Evans, Stuart Scott, Scott Holan, and Tucker McElroy, "Assessing Spectral Peaks in Economic Time Series."
- David Findley, Richard Gagnon, and Tucker McElroy, "Evaluation of Finite-Sample Diagnostics for Model-Based Seasonal Adjustments and Trends."
- Sam Hawala, "Partial Synthesis for Disclosure Avoidance."
- Elizabeth Huang and William Bell, "Using the t-Distribution in Small-Area Estimation: An Application to SAIPE State Poverty Models."
- Donald Malec, Elizabeth Huang, Jerry Maples, and Lynn Weidman, "American Community Survey (ACS) Variance Reduction of Small Areas via Coverage Adjustment Using an Administrative Records Match." (Poster)
- Donald Martin and David Findley, "Adjustments of Data from Period Reporters in Estimates of Monthly Retail Trade."
- Paul Massell and J. Neil Russell, "Protecting the Confidentiality of Commodity Flow Survey Tables by Adding Noise to the Underlying Microdata."
- Tucker McElroy, "Model-Based Formulas for Growth Rates and Their Standard Errors."
- Tucker McElroy and Scott Holan, "A Spectral Approach for Locally Assessing Model Misspecification."
- Brian Monsell, "Recent Developments in Seasonal Adjustment Software at the U.S. Census Bureau."
- Mary Mulry, "Framework for Census Coverage Error Components."
- Rolando Rodríguez, "Disclosure Avoidance for the American Community Survey Public-Use Microdata Samples: A Model-Based Approach for Group Quarters Data."
- Eric Slud, "Estimation of Attrition Biases in SIPP."
- Lynn Weidman, Michael Ikeda, and Julie Tsay, "Comparison of Alternatives for Controlling Group Quarters Person Estimates in the American Community Survey."
- William Winkler and William Yancey, "Automatically Estimating Record Linkage False Match Rates."
- William Yancey, "A Study of String Comparator Performance on Census Name Data."
- Laura Zayatz, "U.S. Census Bureau Disclosure Avoidance Practices and Research: An Update for JSM 2006."

UN/ECE Work Session on Statistical Data Editing, Bonn, Germany, September 25-27, 2006.

- María García, "Selective Editing Strategies for the U.S. Census Bureau Foreign Trade Statistics Programs."
- María García, Discussion, Topic (V): "New and Emerging Methods."

5. STATISTICAL RESEARCH DIVISION SEMINAR SERIES

Seminar Series Team: Barbara Palumbo, Laurie Schwede, Yves Thibaudeau, Julie Tsay

Theresa A. (Teri) O'Connell, Humans and Computers, Inc., "Usability Engineering: Integral, Achievable Processes for Software Development in the Federal Workplace," October 12, 2005.

Tucker McElroy, SRD, U.S. Census Bureau, "A Nonparametric Test for Assessing Spectral Peaks," October 13, 2005.

John Baugh, Washington University in St. Louis, "The Evolution of Linguistic Diversity in the United States: America's Linguistic Heritage and Census Data Collection of Hidden American Global Assets," October 18, 2005.

Ivan Fellegi, Chief Statistician, Statistics Canada (The Wise Elders Program), "A Lifetime in Official Statistics: A Question & Answer Period," October 26, 2005.

William E. Winkler, SRD, U.S. Census Bureau, "Methods for Re-identifying and Analyzing Masked Microdata," October 27, 2005.

Vera Bulaevskaya, Department of Statistics, Carnegie Mellon University, "Noise Reduction in Functional Magnetic Resonance Imaging via Shrinkage and Time Series Modeling," December 2, 2005.

Laurie Schwede, Rae Lesser Blumberg, Amy Craver, Tai Kang, Patricia Goerman, Bernadette Holmes, and Jennifer Hunter Childs, "A Comparative Study of Complex Households in Six Race/Ethnic Groups, With Implications for Censuses and Surveys," December 5, 2005. The session included the following presentations:

- Laurie Schwede, SRD, U.S. Census Bureau, "A Comparative Study of Complex Households, With Implications for Censuses and Surveys: Session Introduction";
- Jennifer Hunter Childs, SRD, U.S. Census Bureau, "'Who is the Mother? It's the One Who Raises You': Complex Households and Relationships Among Rural Middle-Class Whites";
- Patricia Goerman, SRD, U.S. Census Bureau, "Home is Where the Heart is: Gender and Family Life Among Latino Immigrants Living in Complex Households";
- Rae Lesser Blumberg, University of Virginia, "Gender, Economy, and Kinship in Complex Households among Six Ethnic Groups: Who Benefits? Whose Kin? Who Cares?"
- Bernadette Holmes, Norfolk State University, "African American Households in Transition; Structure, Culture, and Self-definition";
- Amy Craver, Fish and Wildlife Service, Anchorage, Alaska, "Inupiaq Survival Strategies: Complex Households and Sharing Networks"; and
- Laurie Schwede, SRD, U.S. Census Bureau, "A Comparative Study of Complex Households in Six Race/Ethnic Groups, with Implications for Censuses and Surveys: Session Themes and Recommendations."

Alfred O. Gottshalck, HHES, U.S. Census Bureau, and Yves Thibaudeau, SRD, U.S. Census Bureau, "Improving Wealth Data Imputation Methodology to Account for the Correlation Between Corresponding Assets and Liabilities in the Survey of Income and Program Participation," December 7, 2005.

Dean H. Judson, PRED, U.S. Census Bureau, "Statistical Rule Induction in the Presence of Prior Information: The Bayesian Record Linkage Problem," December 8, 2005.

Dean H. Judson, PRED, U.S. Census Bureau, "Information Integration: Case Studies and Emerging Principles," December 14, 2005.

Judee K. Burgoon, University of Arizona, "Reading Nonverbal Messages," January 31, 2006.

Theresa A. (Teri) O'Connell, Humans and Computers, Inc., "Usability Engineering: Can-Do Processes for Software Development in the Federal Workplace," February 22, 2006.

C. Daniel Batson, University of Kansas, "Survey Participation as Prosocial Behavior," March 7, 2006.

Wendy Schafer, Pennsylvania State University, "Using Participatory Design to Increase Software Usability," March 27, 2006.

Douglas W. Maynard, University of Wisconsin, "Introductory Expertise and Tailoring in the Opening Moments of Telephone Requests for Survey Participation," March 29, 2006.

Rebecca Hoffman, Population Division, U.S. Census Bureau, "The 2007 Sudan Census Project," April 12, 2006.

Robert Parker, formerly with Bureau of Economic Analysis (Wise Elders Program), "New Building, New Opportunities," April 19, 2006.

Michael Crotty, North Carolina State University, "Assessing the Effects of Variability in Interest Rate Derivative Pricing," May 1, 2006.

Christopher D. Blakely, University of Maryland, College Park, "A Fast Empirical Mode Decomposition Technique for Nonlinear Nonstationary Time Series," May 4, 2006.

William E. Winkler, SRD, U.S. Census Bureau, "The State of Record Linkage," May 16, 2006.

Charles Hirschman, Population Reference Bureau, "How Many Students Really Graduate from High School? The Process of High School Attrition," June 7, 2006.

Richard E. Petty, The Ohio State University, "Individual Differences in Opinion Formation and Change," June 13, 2006.

Jerry Reiter, Duke University, "Disclosure Limitation in ACS Microdata with Multiple Imputation," June 20, 2006.

Janet L. Norwood, formerly with Bureau of Labor Statistics (Wise Elders Program), "Statistics and Public Policy: Past and Future," June 28, 2006.

Sherae L. Daniel, University of Maryland, College Park, "Opportunities and Challenges Applying Functional Data Analysis to the Study of Open Source Software Evolution," July 11, 2006.

Timothy B. Fowler, Peter D. Johnson, and Laura M. Heaton, International Programs Center, Population Division, "The International Programs Center Involvement in HIV/AIDS Activities," July 12, 2006.

Tapabrata Maiti, Iowa State University, "On the Mean Squared Prediction Error for Small Area Estimation," July 19, 2006.

Christopher D. Blakely, University of Maryland and U.S. Census Bureau, "Besov Spaces and Empirical Mode Decomposition for Seasonal Adjustment in Nonstationary Time Series," August 29, 2006.

Jerry J. Maples, SRD, U.S. Census Bureau, "Small Area Estimation of School District Child Population and Poverty: Studying the Use of IRS Income Tax Data," September 27, 2006.

6. PERSONNEL ITEMS

6.1 HONORS/AWARDS/SPECIAL RECOGNITION

Fellow, American Statistical Association

- **Donald Malec** – For improving statistical practice through methodological and collaborative research and consulting; and for important applied contributions in medical device clinical trials, small-area statistics, evaluation of census coverage, and nanoscale imaging.

Honorable Mention, 2005 Best Paper Competition, Federal Forecasters Consortium

- **William Bell** (DIR) and **Tucker McElroy** – For their paper "Forecasting Age Distribution Curves" presented at the 2005 Federal Forecasters Conference.

Best Student Paper Award, 7th World Congress on Computational Mechanics.

- **Christopher Blakely** – For best student paper at the 7th World Congress on Computational Mechanics.

Press Release Endorsement, American Anthropological Association

- **Schwede, L.**, **Blumberg, R.**, and **Chan, A.** (Eds.) (2006). *Complex Ethnic Households in America*, New York: Rowman & Littlefield. As a rare act, the American Anthropological Association (AAA) has chosen to publicly endorse and promote this book by issuing a press release on it with the official AAA logo. The press release and copies of the book have been sent to selected foundations, think tanks, and media outlets.

Customer Service Award

- **Brian Monsell** – For continued outstanding service in response to hundreds of requests from inside and outside the Census Bureau for information and support concerning the X-12-ARIMA time series software.

6.2 SIGNIFICANT SERVICE TO PROFESSION

Jen Beck

- Secretary (incoming), DC-American Association for Public Opinion Research.
- Refereed paper for *Applied Cognitive Psychology*.

Pat Cantwell

- Associate Editor, *Journal of Official Statistics*.
- Associate Editor, *Survey Methodology*.
- Member, Evaluations Subcommittee, Advisory Committee on Continuing Education, American Statistical Association.
- Member, Council of Sections Nominations Committee, American Statistical Association.
- Member, Selection Subcommittee for Continuing Education courses at the 2006 Joint Statistical Meetings (JSM).
- Committee on Committees Representative to the JSM.

Jennifer Hunter Childs

- Member, Program Committee, DC-American Association for Public Opinion Research.
- Secretary (outgoing), DC-American Association for Public Opinion Research.
- Member, QBANK Steering Committee.

Aref Dajani

- Refereed two papers for *Statistics and Probability Letters.*

Manuel de la Puente

- Member, Nominations Committee, American Sociological Association.
- Refereed paper for *Public Opinion Quarterly.*

Terry DeMaio

- Refereed papers for the *Public Opinion Quarterly, Applied Cognitive Psychology*, and the *Journal of General Medicine*.
- Member, Editorial Board, *Public Opinion Quarterly.*

Jeremy Funk
- Member, Confidentiality and Data Access Committee, Federal Committee on Statistical Methodology (FCSM).

María García
- Member, Steering Committee, UN/ECE Work Session on Statistical Data Editing.
- Session Organizer and Discussant, Topic (V): New and Emerging Methods, UN/ECE Work Session on Statistical Data Editing.

Patricia Goerman
- Session Organizer, 2005 Federal Committee on Statistical Methodology (FCSM) Research Conference.
- Participant, Comparative Survey Design and Implementation (CSDI) Workshop Planning Meeting (Ann Arbor, Michigan, December 2005).
- Participant, AAPOR Interest Group on Multilingual Issues, 2006 AAPOR Annual Conference.
- Member, Comparative Survey Design and Implementation (CSDI) Working Group on Questionnaire Design.

Sam Hawala
- Member, Confidentiality and Data Access Committee, FCSM.
- Member, National Center for Education Statistics Disclosure Review Board.
- Volunteer Contributor, Confidentiality and Data Access Committee web site.

Michael Ikeda
- Refereed paper for *The American Statistician.*

Donald Malec
- Fellow, American Statistical Association.
- Chair (elected for 2005-2007), Methodology Program, Washington Statistical Society.
- Refereed papers for *Statistics in Medicine, Journal of the American Statistical Association,* and the *Journal of the Royal Statistical Society, Series B.*

Jerry Maples
- Refereed papers for *The American Statistician* and *Biometrika.*

Donald Martin
- Member, Committee on Minorities in Statistics, American Statistical Association (2000-present).
- Refereed papers for *The American Statistician, The European Journal of Operational Research,* and the journal *Computers and Operations Research.*

Paul Massell
- Member, Confidentiality and Data Access Committee, FCSM.
- Member, Bureau of Transportation Statistics Disclosure Review Board.
- Refereed paper for the *Journal of the Royal Statistical Society, Series B.*

Tucker McElroy
- Refereed papers for *Population Studies* and *The Journal of Official Statistics.*

Brian Monsell
- Webmaster and *AMSTAT* Online Assistant Editor, Business and Economic Statistics Section, American Statistical Association.
- Organized several topic contributed sessions at the 2006 Joint Statistical Meetings, including an invited session on seasonality for the Business and Economic Statistics Section.

Jeff Moore
- Refereed papers for the *American Economic Review* and *Social Science Research*.
- Reviewed and commented on a draft "research brief" on maternal depression and its effects on children's acting-out behavior prepared by Child Trends, Inc.
- Invited participant, Expert Panel of Social Security Administration and Mathematica to review and discuss initial findings from a project to develop nonresponse adjustment strategies to compensate for SIPP attrition and incomplete matching to administrative records.

Mary Mulry
- Associate Editor, *The American Statistician*.
- Associate Editor, *Journal of Official Statistics.*

Elizabeth Murphy
- Reviewed four papers submitted to the Human-Computer Interface Conference, U.K.

Beth Nichols
- Refereed paper for *Public Opinion Quarterly.*

Yuling Pan
- Member, Editorial Advisory Board, *The Handbook of Business Discourse.*
- Co-organizer, AAPOR Interest Group on Multilingual Issues in Survey Research, 2006 AAPOR Annual Conference.
- Participant, Interagency Roundtable on Languages.

Joanne Pascale
- Reviewed draft questionnaire for an American Public Health Association member survey.

Jennifer Rothgeb
- Secretary-Treasurer, Executive Council, American Association of Public Opinion Research.
- Member, Finance (Investment) Committee, American Association of Public Opinion Research.
- Chair, Endowment Committee, American Association of Public Opinion Research.
- Member, Committee on Committees, American Association of Public Opinion Research.
- Member, Interagency Steering Committee for Q-Bank Development.

Laurie Schwede
- Session Organizer, 2005 American Anthropological Association Meeting.

Eric Slud
- Associate Editor, *Journal of the Royal Statistical Society, Series B (Methodological).*
- Associate Editor, *Lifetime Data Analysis.*

Phil Steel
- Chair, Confidentiality and Data Access Committee, FCSM.
- Member, American Statistical Association's Committee on Privacy and Confidentiality.

Yves Thibaudeau
- Chair, Social Committee, Washington Statistical Society.
- Member, Committee on Minorities, American Statistical Association.
- Refereed papers for the *Journal of the American Statistical Association*, *The American Statistician*, the *Journal of Planning and Inference*, and the *Journal of the Royal Statistical Society-Series B.*

Thomas Trimbur
- Refereed papers for *Econometrics Journal*, *Empirical Economics*, *Journal of Applied Econometrics*, and *Oxford Bulletin of Economics and Statistics.*

Lynn Weidman
- Reviewed and provided substantial comments on the draft guidebook for National Cooperative Highway Research Program Project 8-48: "Using American Community Survey Data for Transportation Planning."

William Winkler
- Reviewer, Extensive Proof in a PhD Dissertation (Computer Science), Australia National University.
- Program Committee Member, *Statistical Data Protection 2006*, monograph to be published by Springer.
- Associate Editor, *Journal of Privacy Technology*.
- Associate Editor, *Journal of Privacy and Confidentiality.*
- Refereed papers for *Statistics in Medicine, Management Science, Data Mining and Knowledge Discovery,* and the *Journal of Official Statistics*.
- Pre-reviewed paper for *Journal of the Royal Statistical Society, Series A.*
- Member, Scientific Committee, Data Clean 2006 Workshop, Very Large Databases Conference.
- Reviewed proposals about a possible NSF 3-year research grant for an U.S. professor and about a possible EU 3-year research grant for a French professor. Wrote supporting letters for each.

Tommy Wright
- Associate Editor, *The American Statistician.*
- Associate Editor, *The American Journal of Mathematical and Management Sciences.*
- Member, Department of Statistics Advisory Council, George Mason University.
- Member, Department of Mathematics Advisory Board for Masters Program, Georgetown University.
- Member, Executive Director Search Committee, American Statistical Association.
- Member, 2009 ISI Session Program Committee, International Association of Survey Statisticians.
- Member, Morris Hansen Lecture Committee.

Laura Zayatz
- Member, Confidentiality and Data Access Committee, FCSM.
- Member, Advisory Board, *Journal of Privacy Technology.*
- Refereed a paper for the *Journal of Official Statistics.*

6.3 PERSONNEL NOTES

Juanita "Nita" Rasmann's passing on October 20, 2005 saddened us all. Nita was born July 16, 1935 to Mr. and Mrs. Stanley Dziedzic in Milwaukee, Wisconsin, where she grew up. She earned a Bachelor of Science degree in English from the University of Wisconsin at La Crosse. From her marriage to John Rasmann came three sons–John, Scott, and Chris. The family moved to Maryland in 1975. In 1989, Nita joined the Census Bureau and worked in the Decennial Directorate. Nita joined the Statistical Research Division (SRD) after the 1990 Decennial Census. Over the past 10 years as an Editorial Research Assistant, Nita was the editor of the *SRD Annual Report* and the *SRD Quarterly Report*, and served as the editor and coordinator of the *SRD Research Reports* and *Studies Series*. She did proofreading for professional reports, journal articles, book chapters, and books by individual authors in SRD. Nita enjoyed gardening, reading, watching sports–particularly Brett Favre and the Green Bay Packers–politics, and warm places. She especially enjoyed sharing pictures of, and doting over, granddaughter Emma Grace.

Carol Corby retired from the Census Bureau after 30 years of federal service.

Jennifer Beck joined our Questionnaire Pretesting for Household Surveys Group.

Todd Williams accepted a position with the Social Security Administration.

Juan-Pablo Hourcade accepted a position with the University of Iowa.

Michael Hawkins joined our Office of the Chief.

Kelly Taylor joined us an our Division Secretary.

Anshu Agarwal (senior in Ergonomics and Human Factors at Cornell University) joined our Usability and Human Factors Research Group as an intern for a few weeks during December.

George Carter, III joined our Questionnaire Design and Measurement Research-2 Group as a Post-doctoral Researcher.

Joanne Pascale rejoined our Questionnaire Design and Measurement Research-1 Group, following a one-year leave of absence which she spent working in London in the UK's Survey Methodology Unit at the National Centre for Social Research.

Thomas Trimbur's postdoctoral fellowship ended at the Census Bureau, and he accepted a position at the Federal Reserve Board.

Leslie Brownrigg retired from the Census Bureau after 18 years of federal service.

Richard Gagnon accepted a position with the National Security Agency.

Andy Jocuns accepted a position at the University of Washington.

Summer Visitors:

Joint Program in Survey Methodology Junior Fellows:

- Annie Lin (senior in Economics at The George Washington University).
- Amanda Markey (junior in Economics/Psychology at the University of Chicago).

Christopher Blakely (PhD candidate in Scientific Computing at the University of Maryland, College Park).
Julie Butler (junior in Business at Salisbury University).
Paul Diver (graduate student in Mathematics/Statistics at Georgetown University).
Kristin Hanaoka (graduate student in Sociology at The American University).
Chak Li (graduate student in Statistics at Harvard University).
Dawn Norris (graduate student in Sociology at the University of Maryland, College Park).
Nell Pawlenko (graduate student in Applied Experimental Psychology at The Catholic University of America).

Jun Shao (Professor and Chair, Statistics Department, University of Wisconsin) joined our division as a new ASA/NSF/Census Bureau Research Fellow for collaboration and research on missing data problems (Summers 2006/2007)

Mary Ann Scaggs retired from the Census Bureau.

Patti Goerman's postoctoral fellowship ended, and she accepted a permanent position in our division.

APPENDIX A **Statistical Research Division's FY 2006 Program Sponsored Projects/Subprojects With Substantial Activity and Progress and Sponsor Feedback (Basis for PERFORMANCE MEASURES)**

Project #	Project/Subproject Sponsor(s)	SRD Contact	Sponsor Contact
	DECENNIAL		
5210601	Forms Development		
5210602	Content Planning and Development		
	1. Short Form Questionnaire Content Other than Race & Ethnicity	Terry DeMaio	Jane Ingold
	2. Development of Race and Ethnicity Questions	Eleanor Gerber	Kathleen Styles
5210603	*3. Language Planning and Development*	Patti Goerman	Jane Ingold
5310601	Data Collection Planning and Development		
	4. 2005 Internet Design Team	Betty Murphy	Jennifer Lins
	5. 2006 Census Test Telephone Questionnaire Assistance (TQA) Implementation Team	Larry Malakhoff	Dave Coon
	6. Usability Testing of the 2006 Nonresponse Follow-Up (NRFU) Instrument	Erica Olmsted-Hawala	Darlene Monaco
5310608	Special Place/Group Quarters Planning and Development		
	7. Decennial Census Group Quarters Research and Planning	Laurie Schwede	Annetta Clark Smith
	8. Ethnographic Study of Hotels and Motels	Leslie Brownrigg	Violeta Vazquez
5610602	Statistical Design and Estimation		
	9. Decennial Record Linkage	William Winkler	Maureen Lynch
	10. Decennial Disclosure Avoidance	Laura Zayatz	Marie Pees
	11. Census Unduplication Research	Michael Ikeda	Maureen Lynch
5610603	Coverage Measurement Planning and Development		
	12. Coverage Measurement Research	Don Malec	Rick Griffin
	13. Accuracy of Coverage Measurement	Mary Mulry	Donna Kostanich
	14. Questionnaire Wording and Automation Team	Beth Nichols	Donna Kostanich
5610605	Coverage Improvement Planning and Development		
	15. Decennial Privacy Research	Jeff Moore	Jerry Gates
	16. Development of Questionnaires for Decennial Coverage Improvement	Eleanor Gerber	Danny Childers
	17. Inter-divisional Decennial 2010 Working Groups on Residence Rules and Coverage Improvement	Laurie Schwede	Jim Treat
5385660	American Community Survey (ACS)		
	18. ACS Questionnaire Design Measurement	Jennifer Rothgeb	Wendy Hicks
	19. ACS Small Area Estimation Research	Don Malec	Freddie Navarro
	20. Linking ACS and CPS-ASEC Data on Income and Poverty	Don Malec	Rick Denby
	21. ACS Group Quarters (GQ) Item Imputation and Micro Data Disclosure Avoidance Research	Rolando Rodriguez	Freddie Navarro
	22. ACS Weighting Simplification Research	Lynn Weidman	Freddie Navarro
	23. ACS Language Research	Yuling Pan	Deborah Griffin
	24. ACS "Field of Study" Questions	Jennifer Rothgeb	Wendy Hicks
	25. ACS Statistical Maps on American FactFinder-Usability Testing		
	26. ACS Topic-Based Mode Consistency CATI/CAPI Cognitive Pretesting	Erica Olmsted-Hawala	Marian Brady
		Anna Chan	Wendy Hicks

	DEMOGRAPHIC	
0906/7374	*27. Data Integration*	Sam Hawala . . . . . Marie Pees
0919	Survey of Income and Program Participation (SIPP) Research	
	28. SIPP Methodological Research	Jeff Moore . . . . . David Johnson
	29. Longitudinal Weighting	Leroy Bailey . . . . . Steve Mack
	30. Quick Turnaround Pretesting of Household Surveys-National Crime Victimization Survey, School Crime Supplement	Terry DeMaio . . . . . Marilyn Monahan
	31. Quick Turnaround Pretesting of Household Surveys-CPS High School Validation Study	Terry DeMaio . . . . . Maria Reed
7558111	*32. SIPP Assets/Liabilities Imputation Research/Software Design*	Yves Thibaudeau . . . . . Thomas Palumbo
7165	*33. Research for Small Area Income and Poverty Estimates*	Elizabeth Huang . . . . . David Waddington
	ECONOMIC	
2370654	*34. Editing Methods Development (Investigation of Selective Editing Procedures for Foreign Trade Programs)*	Maria Garcia . . . . . Ryan Fescina
2470651	*35. Disclosure Avoidance Methods*	Laura Zayatz . . . . . Rita Petroni
2370652	Time Series Research	
	36. X-12-ARIMA Development and Evaluation	Brian Monsell . . . Kathleen McDonald-Johnson
	37. Research on Seasonal Time Series - Modeling and Adjustment Issues	Tucker McElroy Kathleen McDonald -Johnson
	STATISTICAL RESEARCH DIVISION	
8150	*38. Postal Rate Commission/Statistical Consulting*	Leroy Bailey . . . . . John Waller
Other	Usability/Field Related	
	39. Optimizing Field Operations	Bor-Chung Chen . . . . . Richard Blass
	40. Web Applications Accessibility-LED/LEHD	Larry Malakhoff . . . . . Colleen Flannery
	41. Web Applications Accessibility-IT Security Awareness Training	Larry Malakhoff . . . . . Lisa Lawler
	42. Web Applications Accessibility-Movable Type Web Log	Larry Malakhoff . . . . . Lisa Wolfisch
	43. Web Applications Accessibility-Section 508 Implementation . .	Larry Malakhoff . . . . . Laura Yax
	44. Understanding the Role of Spatial Cognition in the Use of Map-Based Survey Software	Betty Murphy . . . . . Karen Medina
	45. Census.gov Template Development	Erica Olmsted-Hawala . . . . . Laura Yax
	46. Expert Review of the Redistricting Office Web Site	Eica Olmsted-Hawala . . . . . Deirdre Bishop
	47. Usability Input to Coverage Follow-up (CFU) User-Interface Requirements	Betty Murphy . . . . . Sarah Brady
	48. Study of Reserved Parking for New Census Bureau Building	Jeremy Funk . . . . . Walt Odom

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Jane Ingold,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5210602 Short Form Questionnaire Content Other than Race & Ethnicity
Sponsoring Division(s): DMD

After all information has been provided, the SRD Contact Terry DeMaio will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project involves participation in the 2010 Census Content Planning Group and content-related subgroups other than those focusing on race and ethnicity. It also involves consultation and testing on questionnaire content for the 2010 Census and tests leading up to it.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Kathleen Styles,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5210602 Development of Race and Ethnicity Questions

Sponsoring Division(s): DMD

After all information has been provided, the SRD Contact Eleanor Gerber will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Staff will participate in planning and pretesting alternative versions of the race and ethnicity questions used in the Decennial Census. We will develop proposals for cognitive testing of new question formats in conjunction with decennial staff, and lead or engage in cognitive research as needed.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Jane Ingold,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5210603 Language Planning and Development

Sponsoring Division(s): DMD

After all information has been provided, the SRD Contact Patti Goerman will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Staff participate in the inter-divisional Decennial Task Force, or language team, which focuses on developing and planning the Language Program for the 2010 Census, pre-census tests, and the Dress Rehearsal. In addition, staff in our division provide consultation and technical support in the design, development and conduct of research for Decennial language-related projects.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Jennifer Lins,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5310601 2005 Internet Design Team

Sponsoring Division(s): DSCMO

After all information has been provided, the SRD Contact Betty Murphy will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project focused on iterative prototyping and development of an Internet form for 2010. Our division's role in preparation for the 2005 National Census Test (NCT) was to provide usability and accessibility expertise in the design and evaluation of two versions of the 2005 Census Internet form, a person-based version and a topic-based version. While the 2005 NCT was in production, our role was to support the exploration of design concepts for future prototypes of a Census Internet form.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Dave Coon,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5310601 2006 Census Test Telephone Questionnaire Assistance (TQA) Implementation Team

Sponsoring Division(s): DMD

After all information has been provided, the SRD Contact Larry Malakhoff will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This team will develop the specifications for the web-based telephone questionnaire assistance application in support of the 2006 Census Test.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Darlene Monaco,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5310601 Usability Testing of the 2006 Nonresponse Follow-Up (NRFU) Instrument
Sponsoring Division(s): DMD

After all information has been provided, the SRD Contact Erica Olmsted-Hawala will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this study is to provide iterative usability studies of 2006 Non-Response Follow-Up (NRFU) instrument to the development team. These studies will take the form of iterative usability studies and expert reviews.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Annetta Clark Smith,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5310608 Decennial Census Group Quarters Research and Planning

Sponsoring Division(s): DMD

After all information has been provided, the SRD Contact Laurie Schwede will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The aim of this ongoing interdivisional working group is to improve group quarters listing and enumeration in the decade leading up to the 2010 Census. Two types of forms are being developed and tested. The first is the Other Living Quarters Validation Questionnaire (OLQVQ), which is used for initial listing and typing of group quarters (GQs). The second is the Individual Census Report, used to enumerate group quarter residents.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

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Y 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Violetta Vazquez,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5310608 Ethnographic Study of Hotels and Motels

Sponsoring Division(s): _____

After all information has been provided, the SRD Contact Leslie Brownrigg will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

_____

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Staff proposed and initiated an ethnographic exploratory research in hotels, motels, rooming and room and boarding houses and like establishments. Objectives of this study include estimating what proportion of these types of accommodations host residents long term (for a month or more) or cyclically, determining if establishments which encourage long term stays share any identifying characteristics, and understanding the situations of individuals and families which lead them to stay long term or cyclically in hotel/motel and like establishments.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Maureen Lynch,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5610602 Decennial Record Linkage

Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact William Winkler will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

_____

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Under this project, staff will provide advice, develop computer matching systems, and develop and perform analytic methods for adjusting statistical analyses for computer matching error.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Rick Griffin,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5610602 Research on Item and Count Imputation for Implementation in Census 2010
Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Yves Thibaudeau will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

_____

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Research and studies will be undertaken on item and count imputation for implementation in Census 2010.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Marie Pees,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5610602 Decennial Disclosure Avoidance

Sponsoring Division(s): POP

After all information has been provided, the SRD Contact Laura Zayatz will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

_____

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this research is to develop disclosure avoidance methods to be used for Census Bureau publicly available decennial census and American Community Survey (ACS) data products. Emphasis will be placed on techniques to implement disclosure avoidance at the stage of processing. Disclosure research will be conducted on alternative methods to protect both tabular data and microdata from the decennial census and the ACS. Methods will be developed, tested, evaluated, and documented. We will also aid in the implementation of the methods.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Maureen Lynch,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5610602 Census Unduplication Research

Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Michael Ikeda will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The Census Unduplication Research project began with the 2004 Census Test with the goal of improving the 2010 census unduplication. Initially, the unduplication was completed by the Decennial Statistical Studies Division. The next phase involves the unduplication of the 2006 Test Census by staff, which will incorporate Group Quarters being matched to housing unit data. Ultimately, staff will provide record linkage and modeling technology which will locate more duplicates in the census. Staff began this project in May of 2004.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Rick Griffin,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5610603 Coverage Measurement Research

Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Don Malec will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Conduct research on model-based small area estimation of census coverage. Consult and collaborate on modeling coverage measurement.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Donna Kostanich,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5610603 Accuracy of Coverage Measurement

Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Mary Mulry will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

2010 Census Coverage Measurement Research conducts the research necessary to develop methodology for evaluating the coverage of the 2010 Census. This includes planning, designing, and conducting the research, as well as analyzing and synthesizing the results to evaluate their accuracy and quality. The focus is on the design of the census coverage measurement survey and estimation of components of coverage error with secondary emphasis on the estimation of net coverage error. The estimation of overcount and undercount separately has not been done for previous censuses because of the difficulty of obtaining adequate data for unbiased estimates. The first attempt to implement the new methodology is in the 2006 Census Test.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Donna Kostanich,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5610603 Questionnaire Wording and Automation Team

Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Beth Nichols will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

_____

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this project is to design the coverage measurement survey instruments for the 2010 Census. These instruments will gather enough data to measure both person and household coverage of the 2010 Census. In preparation for 2010, there will be a 2006 Test of the coverage measurement operation in specific sites in conjunction with the 2006 Census Test. For 2006, there will be an automated person interview (PI) collecting an independent roster of people living at pre-selected sample addresses in the sites and their residency. There will also be a paper-based person follow-up questionnaire which collects additional residency information about some people collected in the census or the independent roster, but for whom we did not collect enough residency information to determine where they should have been counted for the census. Both these instruments will be used to measure person coverage. Our immediate goals are to create and test these two instruments given requirements from other teams working on coverage measurement planning. This team is further tasked with developing the independent housing unit listing booklet, and housing unit follow-up forms in order to measure housing unit coverage in 2008/2010.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Jerry Gates,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5610605 Decennial Privacy Research

Sponsoring Division(s): DIR

After all information has been provided, the SRD Contact Jeff Moore will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this project is to serve on and assist the work of the Privacy Policy and Research Committee (PPRC), and to conduct research to assess public opinion on privacy-related issues, including the increased use of administrative records to assist Decennial Census enumeration.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Danny Childers,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5610605 Development of Questionnaires for Decennial Coverage Improvement
Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Eleanor Gerber will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Staff will develop a set of related data collection instruments which will be used to resolve duplicates in the Decennial Census. The project will begin with a pretest, which staff will participate in evaluating. Staff will participate with decennial staff in revision of the instruments for use by clerical personnel, development of training, and additional pretesting for the 2004 Test, or for other mid-decade tests, and for the 2010 Census.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Jim Treat,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5610605 Inter-divisional Decennial 2010 Working Groups on Residence Rules and Coverage Improvement

Sponsoring Division(s): DMD

After all information has been provided, the SRD Contact Laurie Schwede will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

These overall inter-divisional working groups provide input to the Decennial Management Division (DMD) for planning successive operations, and test broadly related coverage research during the decade leading up to the 2010 Census. These groups receive proposals from various subgroups on: within-household coverage, residence rules, imputation, and unduplication.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Wendy Hicks,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5385660 ACS Questionnaire Design Measurement

Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Jennifer Rothgeb will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project provides technical and research support for the development and improvement of ACS data collection instruments used in all modes of data collection available in the ACS. Staff serve on inter-divisional working groups, and provide technical support in the design and conduct of questionnaire design research for the ACS.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Freddie Navarro,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5385660 ACS Small Area Estimation Research

Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Don Malec will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

A proposed method using matched administrative records as tract level controls to reduce coverage error and variability will be evaluated.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Rick Denby,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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Project Number and Name: 5385660 Linking ACS and CPS-ASEC Data on Income and Poverty
Sponsoring Division(s): HHES

After all information has been provided, the SRD Contact Don Malec will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Both the CPS-ASEC and the ACS can produce estimates of income poverty. The CPS estimate of poverty is based on a more detailed list of income questions and provides the official poverty estimate. The ACS has a much larger sample size and can provide estimates for detailed geographic levels. The differences and similarities of these two data collection systems will be evaluated with the aim of efficiently using both for estimation.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Freddie Navarro,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5385660 ACS Group Quarters (GQ) Item Imputation and Micro Data Disclosure Avoidance Research

Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Rolando Rodriguez will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

In the past, before releasing GQ microdata we marked a record at risk if its particular combination of at-risk variables falls below a threshold. For these records we would impute the at-risk variables. Recently we have considered a refinement to this method. We can now determine, for each record, which specific variables put that record at risk. We may then synthesize, per record, only those variables that are absolutely necessary for removing disclosure risk. This requires much more computational effort, but the benefit is that we can minimize the amount of data we synthesize, which helps maintain accurate joint marginal tables. Also, by stratifying records based upon their at-risk variables, we can build models on a per-stratum basis.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Freddie Navarro,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5385660 ACS Weighting Simplification Research

Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Lynn Weidman will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Group quarters (GQ) weighting and estimation has been carried out only once with ACS data, for calendar year 1999 when there were 36 counties in sample. At that time, GQ stratification and sampling was done separately for each county. For the full GQ implementation of ACS starting in 2006, a new GQ sort by type within state will be used. Now that every county in the nation will be in sample, there is the possibility of weighting GQ persons by county or state. A simulation study is comparing options for weighting GQ persons by county or state and controlling GQ person estimates, either by themselves or together with housing unit (HU) person estimates. A research proposal was developed for determining appropriate methodology for estimating the number of persons residing in GQ and their characteristics.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Deborah Griffin,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5385660 ACS Language Research
Sponsoring Division(s): DSMD

After all information has been provided, the SRD Contact Yuling Pan will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project provides technical and research support for addressing language issues in ACS data collection instruments and supporting documents. Staff serve on inter-divisional working groups and provide consultation and technical support in the design and development of language research for the ACS.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Wendy Hicks,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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Project Number and Name: 5385660 ACS "Field of Study" Questions

Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Jennifer Rothgeb will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The National Science Foundation (NSF) requested the Census Bureau to pretest a "field of study" question that it hopes will eventually be included on the American Community Survey. Assuming such a question meets the ACS Content Policy requirements and is included on the ACS, NSF will use the data to identify persons with science and engineering degrees to use as sampling frames for the National Survey of College Graduates.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Marian Brady,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5385660 ACS Statistical Maps on American Fact Finder-Usability Testing

Sponsoring Division(s): DADSO

After all information has been provided, the SRD Contact Erica Olmsted Hawala will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this study is to conduct a usability study of three different American Factfinder (AFF) maps. Two of the maps show statistical significance. The usability study will highlight which of the three maps perform better, and whether there is a difference between the statistical maps.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Wendy Hicks,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 5385660 ACS Topic-Based Mode Consistency CATI/CAPI Cognitive Pretesting
Sponsoring Division(s): DSSD

After all information has been provided, the SRD Contact Anna Chan will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The ACS will be interpreting and implementing the mode consistency guidelines and applying them to its current computer-assisted telephone interview (CATI) and computer-assisted person interview (CAPI) instruments. The ACS Methods Panel will field test the modified CATI/CAPI instruments in 2007. In addition to applying the mode consistency guidelines, the field test will introduce the topic-based format to its front end 100% items to both the CATI and CAPI instruments. Staff will participate in designing and pretesting the CAPI and CATI topic-based format of the100% items CAPI/CATI instrument with the application of the mode consistency guidelines. The main objective of this cognitive study is to test the structure and the flow of topic-based format of the automated instruments for the collection of 100% demographic data.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Marie Pees,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 0906/7374 Data Integration
Sponsoring Division(s): POP

After all information has been provided, the SRD Contact Sam Hawala will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this research is to identify microdata records at risk of disclosure due to publicly available databases. Microdata from all Census Bureau surveys and censuses will be examined. Potentially linkable data files will be identified. Disclosure avoidance procedures will be developed and applied to protect any records at risk of disclosure.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear David Johnson,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 0919 SIPP Methodological Research

Sponsoring Division(s): HHES

After all information has been provided, the SRD Contact Jeff Moore will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

_____

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project conducts long-term methodological research to inform the design of SIPP in particular, and longitudinal surveys in general. A major current focus of this project is the evaluation and documentation of the impacts of the many and substantial revisions to the 2004 panel SIPP questionnaire made as a result of the multi-year SIPP "Methods Panel" research and development effort.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Steve Mack,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 0919 Longitudinal Weighting
Sponsoring Division(s): DSMD

After all information has been provided, the SRD Contact Leroy Bailey will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The objective of this project is to design and conduct research required to assess the effectiveness of weighting alternatives for the SIPP longitudinal estimation.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Marilyn Monahan,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 0919 Quick Turnaround Pretesting of Household Surveys-National Crime Victimization Survey, School Crime Supplement

Sponsoring Division(s): _____

After all information has been provided, the SRD Contact Terry DeMaio will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

_____

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project involves pretesting new or revised series of questions for insertion into household surveys. The projects are of the short-term, quick turnaround variety rather than long-term research efforts to redesign a survey. Methods used include cognitive testing and other techniques as appropriate.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Maria Reed,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Quick Turnaround Pretesting of Household Surveys-CPS High School Validation Study
Sponsoring Division(s): DSD

After all information has been provided, the SRD Contact Terry DeMaio will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project involves pretesting new or revised series of questions for insertion into household surveys. The projects are of the short-term, quick turnaround variety rather than long-term research efforts to redesign a survey. Methods used include cognitive testing and other techniques as appropriate.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Thomas Palumbo,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 7558111 SIPP Assets/Liabilities Imputation Research/Software Design
Sponsoring Division(s): HHES

After all information has been provided, the SRD Contact Yves Thibaudeau will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project undertakes research requested by the Social Security Administration (SSA). The goals of the research are: 1) To measure the impact of the SIPP imputation methodology on the bias of the final wealth estimates; and 2) To research and devise reduced-bias imputation methods for future implementation in the process of editing wealth data.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear David Waddington,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 7165 Research for Small Area Income and Poverty Estimates
Sponsoring Division(s): HHES

After all information has been provided, the SRD Contact Elizabeth Huang will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

_____

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this research is to develop, in collaboration with the Housing and Household Economic Statistics Division (HHES), methods to produce "reliable" income and poverty estimates for small geographic areas and/or small demographic domains (e.g., poor children age 5-17 for counties). The methods should also produce realistic measures of the accuracy of the estimates (standard errors). The investigation will include assessment of the value of various auxiliary data (from administrative records or surveys) in producing the desired estimates. Also included would be an evaluation of the techniques developed, along with documentation of the methodology.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Ryan Fescina,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 2370654 Editing Methods Development (Investigation of Selective Editing Procedures for Foreign Trade Programs

Sponsoring Division(s): FTD

After all information has been provided, the SRD Contact Maria Garcia will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this project is to develop selective editing strategies for the U. S. Census Bureau foreign trade statistics program. The Foreign Trade Division (FTD) processes more than 5 million transaction records every month. These data are edited automatically, however some records still may have edit failures. Follow-up of all failing records is not possible due to the large size of the data and the amount of time available for the data review process.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Rita Petroni,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 2470651 Disclosure Avoidance Methods

Sponsoring Division(s): ESMPD

After all information has been provided, the SRD Contact Laura Zayatz will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this research is to develop disclosure avoidance methods to be used for Census Bureau publicly available economic data products. Emphasis will be placed on techniques to implement disclosure avoidance at the stage of data processing. Disclosure avoidance research will be conducted on alternative methods to cell suppression for selected economic surveys. We will also aid in the implementation of the methods.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Kathleen McDonald-Johnson,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 2370654 X-12-ARIMA Development and Evaluation
Sponsoring Division(s): ESMPD

After all information has been provided, the SRD Contact Brian Monsell will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The goal of this project is a multi-platform computer program for seasonal adjustment, trend estimation, and calendar effect estimation that goes beyond the adjustment capabilities of the Census X-11 and Statistics Canada X-11-ARIMA programs, and provides more effective diagnostics. This fiscal year's goals include: (1) finishing a release version of the program for the general public that includes the automatic time series modeling capability of the TRAMO/SEATS seasonal adjustment program, and (2) further improvements to the X-12-ARIMA user interface, output and documentation. In coordination and collaboration with the Time Series Methods Staff, the staff will provide internal and/or external training in the use of X-12-ARIMA and the associated programs, such as X-12-Graph, when appropriate.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Kathleen McDonald-Johnson,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

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- *Measure 3b. Plans for Implementation:* Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.
- *Measure 4. Predict Cost Efficiencies:* Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."
- *Measure 5. Journal Articles, Publications:* Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.
- *Measure 6. Proceedings Publications:* Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 2370654 Research on Seasonal Time Series-Modeling and Adjustment Issues
Sponsoring Division(s): ESMPD

After all information has been provided, the SRD Contact Tucker McElroy will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The main goal of this research is to discover new ways in which time series models can be used to improve seasonal and calendar effect adjustments. An important secondary goal is the development or improvement of modeling and adjustment diagnostics. This fiscal year's projects include: 1) collaboration with the Economic Statistical Methods and Programming Division in the further evaluation of the TRAMO/SEATS model-based seasonal adjustment program; 2) the further development of a version of X-12-ARIMA called SEATS, so that X-12-ARIMA diagnostics can be used to analyze SEATS adjustments, and also so that, when appropriate, SEATS adjustments can be produced by the Economic Directorate.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear John Waller,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

Measure 2. Established Major Deadlines Met: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that all established major deadlines were met.

Measure 3a. At Least One Improved Method, Techniques Developed, Solution, or New Insight: Percent of FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight.

Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: 8150 Postal Rate Commission/Statistical Consulting

Sponsoring Division(s): Postal Rate Commission

After all information has been provided, the SRD Contact Leroy Bailey will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The work associated with this project will entail the review of testimony, interrogatories, decisions, and other documentation relating to proceedings of the Commission in order to identify major statistical issues and provide relevant consultation. The consultation will include: 1) the briefing of the commissioners and other commission officials on the ramifications and desirable approaches to the identified statistical questions; and 2) the presentation of written summaries of the major findings from all assigned reviews.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Richard Blass,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 3a. At Least One Improved Method, Techniques Developed, Solution, or New Insight: Percent of FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight.

Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Optimizing Field Operations
Sponsoring Division(s): FLD

After all information has been provided, the SRD Contact Bor-Chung Chen will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project is intended to provide the Field Division with a resource for new research in areas that will improve its processes. Over time, research topics may include modeling or forecasting. The first project will study the use of operations research techniques to improve the ability to predict survey costs in the field.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Colleen Flannery,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Web Applications Accessibility - LED/LEHD

Sponsoring Division(s): MSD

After all information has been provided, the SRD Contact Larry Malakhoff will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project focuses on the accessibility of Internet and Intranet applications by blind and low vision users in accordance with the Section 508 regulations.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Lisa Lawler,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Web Applications Accessibility-IT Security Awareness Training

Sponsoring Division(s): SSD

After all information has been provided, the SRD Contact Larry Malakhoff will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

_____

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project focuses on the accessibility of Internet and Intranet applications by blind and low vision users in accordance with the Section 508 regulations.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Lisa Wolfisch,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 3a. At Least One Improved Method, Techniques Developed, Solution, or New Insight: Percent of FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight.

Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Web Applications Accessibility-Movable Type Web Log

Sponsoring Division(s): SSD

After all information has been provided, the SRD Contact Larry Malakhoff will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project focuses on the accessibility of Internet and Intranet applications by blind and low vision users in accordance with the Section 508 regulations.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Laura Yax,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Web Applications Accessibility-Section 508 Implementation

Sponsoring Division(s): SSD

After all information has been provided, the SRD Contact Larry Malakhoff will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project focuses on the accessibility of Internet and Intranet applications by blind and low vision users in accordance with the Section 508 regulations.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Kathleen McDonald-Johnson,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

Measure 2. Established Major Deadlines Met: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that all established major deadlines were met.

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Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

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Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Desktop Applications Accessibility-X-12-ARIMA
Sponsoring Division(s): ESMPD

After all information has been provided, the SRD Contact Larry Malakhoff will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

This project focuses on accessibility of desktop applications by blind and low vision users in accordance with the Section 508 regulations. Desktop applications are either downloaded or sent to the respondent on disk.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Karen Medina,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Understanding the Role of Spatial Cognition in the Use of Map-Based Survey Software

Sponsoring Division(s): DMD

After all information has been provided, the SRD Contact Betty Murphy will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

_____

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Our division's role is to collaborate with researchers from Iowa State University in investigating the role of spatial cognition in performing location-dependent survey tasks with the support of mobile computers. An objective is to develop a computer-based cognitive model of user interaction with map software on mobile computers. The model will express observed and hypothesized relationships between spatial cognition and map interface use in location-dependent survey tasks. A benefit of the model will be its ability to predict the human-performance effects of alternative designs of the mapping software user interface.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Laura Yax,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Census.gov Template Development

Sponsoring Division(s): SSD

After all information has been provided, the SRD Contact Erica Olmsted Hawala will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this study is to develop a set of templates with a consistent and usable look and feel for the Census.gov Website. The template is intended to be used by both the demographic and economic domains of Census.gov. Some of the techniques to develop the template include card sorting, low-fidelity prototype testing, and usability testing.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Deirdre Bishop,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 3a. At Least One Improved Method, Techniques Developed, Solution, or New Insight: Percent of FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight.

Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

Measure 4. Predict Cost Efficiencies: Number of FY 2006 Program Sponsored Projects/Subprojects reporting at least one "predicted cost efficiency."

Measure 5. Journal Articles, Publications: Number of journal articles (peer review) and publications documenting research that appeared or were accepted in FY 2006.

Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Expert Review of the Redistricting Office Web Site

Sponsoring Division(s): BUD

After all information has been provided, the SRD Contact Erica Olmsted Hawala will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

The purpose of this study was to give an expert review of a domain of Census.gov that had recently made some design changes. As time permits, the client may return to the lab for additional assistance.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Sarah Brady,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Usability Input to Copverage Follow-up (CFU) User-Interface Requirements

Sponsoring Division(s): DSCMO

After all information has been provided, the SRD Contact Betty Murphy will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

Our division's role was to provide usability review of user-interface requirements for an Internet-based CFU instrument to be administered online by telephone interviewers. The CFU user-interface team developed the requirements in cooperation with the contractors, Z-Tech Corporation and Gunnison Consulting Group. When these requirements are delivered to the Decennial Response Integration System (DRIS) contractor, our division's role will be to respond to any usability questions raised by the contractor.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

FY 2006 PROJECT PERFORMANCE MEASUREMENT QUESTIONNAIRE STATISTICAL RESEARCH DIVISION

Dear Walt Odom,

In a continuing effort to obtain and document feedback from program area sponsors of our projects or subprojects, the Statistical Research Division will attempt for the sixth year to provide *seven measures of performance*, this time for the fiscal year 2006. For FY 2006, the *measures of performance* for our division are:

Measure 1. Overall, Work Met Expectations: Percent of FY 2006 Program Sponsored Projects/Subprojects where sponsors reported that work met their expectations.

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Measure 3b. Plans for Implementation: Of the FY 2006 Program Sponsored Projects/Subprojects reporting at least one improved method, techniques developed, solution, or new insight, the percent with plans for implementation.

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Measure 6. Proceedings Publications: Number of proceedings publications documenting research that appeared in FY 2006.

These measures will be based on response to the five questions on this form from our sponsors as well as from members of our division and will be used to help improve our efforts.

To construct these seven measures for our division, we will combine the information for all of our program area sponsored projects or subprojects obtained during October 6 thru October 20, 2006 using this questionnaire. Your feedback is requested for:

Project Number and Name: Study of Reserved Parking for New Census Bureau Building

Sponsoring Division(s): ACSD

After all information has been provided, the SRD Contact Jeremy Funk will ensure that the signatures are obtained in the order indicated on the last page of this questionnaire.

We very much appreciate your assistance in this undertaking.

Tommy Wright Date
Chief, Statistical Research Division

Brief Project Description ***(SRD Contact will provide from Division's Quarterly Report):***

We were requested to assist in the allotment of reserved parking after the move to the new building. Since parking will be limited in the new garage-only arrangement, Census GS-15 or above employees will no longer have individually assigned spaces and instead will park in a designated reserved parking 'section.' Our goal was to determine how large this section will need be to fully accommodate this group's parking needs without wasting valuable space.

Brief Description of Results/Products from FY 2006 ***(SRD Contact will provide):***

(over)

TIMELINESS:
Established Major Deadlines/Schedules Met

1(a). Were all established major deadlines associated with this project or subproject met? **(Sponsor Contact)**

☐ Yes ☐ No ☐ No Established Major Deadlines

1(b). If the response to 1(a) is No, please suggest how future schedules can be better maintained for this project or subproject. **(Sponsor Contact)**

QUALITY & PRODUCTIVITY/RELEVANCY:
Improved Methods /Techniques Developed/Solutions/New Insights

2. Listed below are at most 2 of the top improved methods, techniques developed, solutions, or new insights offered or applied on this project or subproject in FY 2006 where an SRD staff member was a significant contributor. Review "a" and "b" below **(provided by SRD Contact)** and make any additions or deletions as necessary. For each, please indicate whether or not there are plans for implementation. If there are no plans for implementation, please comment.

☐ No improved methods/techniques/solutions/new insights developed or applied.

☐ Yes as listed below. (See a and b.)

Plans for Implementation?

a. _____ Yes ☐ No ☐

b. _____ Yes ☐ No ☐

Comments (Sponsor Contact):

COST:
Predict Cost Efficiencies

3. Listed **(provided by SRD Contact)** below are at most two research results or products produced for this project or subproject in FY 2006 that predict cost efficiencies. Review the list, and make any additions or deletions as necessary. Add any comments.

☐ No cost efficiencies predicted.

☐ Yes as listed below. (See a and b.)

a.

b.

Comments (Sponsor Contact):

OVERALL:
Expectations Met/Improving Future Communications

4. Overall, work on this project or subproject by SRD staff during FY 2006 met expectations. **(Sponsor Contact)**

☐ Strongly Agree
☐ Agree
☐ Disagree
☐ Strongly Disagree

5. Please provide suggestions for future improved communications or any area needing attention on this project or subproject. **(Sponsor Contact)**

(SRD Contact will coordinate first two signatures as noted and pass to SRD Chief.)

First _____
Sponsor Contact Signature Date

Second _____
SRD Contact Signature Date

(SRD Chief will coordinate last two signatures as noted.)

Third _____
Sponsor Division Chief Signature Date

Fourth _____
SRD Division Chief Signature Date

Statistical Research Division

Assistant Division Chief
Robert Creecy
Barbara Palumbo
Judi Norvell
Chad Russell

Machine Learning & Computational Statistics Research
Bill Winkler
Mohammed Chaudhry
William Yancey
VACANT

Computing Applications
Aref Dajani
Pam Ferrari
Tom Petkunas
Ned Porter
VACANT

Missing Data Methods Research
Yves Thibaudeau
Bor-Chung Chen
Maria Garcia
Rolando Rodriguez
Jun Shao (F)
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Assistant Division Chief
Pat Cantwell
Alice Bell
Gloria Prout

Sampling Research
Lynn Weidman
Ann Dimler
Mike Ikeda
Mary Mulry
Julie Tsay
VACANT

Small Area Estimation Research
Don Malec
Elizabeth Huang
Jerry Maples

Statistical Estimation & Analysis Research
Leroy Bailey
Eric Slud (U. of MD)
VACANT

Disclosure Avoidance Research
Laura Zayatz
Jeremy Funk
Sam Hawala
Paul Massell
Phil Steel
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Time Series Research
Brian Monsell
Chris Blakely (S)
Don Martin (Howard U)
Tucker McElroy
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Assistant Division Chief
Manuel de la Puente
Tina Arbogast
Diana Simmons

Questionnaire Design & Measurement Research-1
Jeff Moore
Anna Chan
Joanne Pascale
Jennifer Rothgeb

Questionnaire Design & Measurement Research-2
Eleanor Gerber
George Carter (PostDoc)
Yuling Pan
Laurie Schwede
VACANT

Questionnaire Pretesting for Household Surveys
Terry DeMaio
Jen Beck
Jenny Hunter Childs
Patti Goerman
Ashley Landreth
Dawn Norris (S)
Lorraine Randall

Human Factors & Usability Research
Betty Murphy
Sherae Daniel (S)
Joyce Farmer
Larry Malakhoff
Beth Nichols
Erica Olmsted-Hawala
Alex Trofimovsky (S)
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Tommy Wright, Chief
Kelly Taylor
Michael Hawkins
Paul Diver (S)
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(F) ASA/NSF/Census Bureau Fellow
(S) Student