SUPPORTING STATEMENT
U.S. Department of Commerce
U.S. Census Bureau
Census Barriers Attitudes and Motivators Survey
OMB Control No. 0607-XXXX

Part B – Collection of Information Employing Statistical Methods

1. Universe and respondent Selection

The target population for this research project is all residents (citizens and non-citizens) of the United States. Within this target population, there are key demographic segments that have historically been hard-to-count (HTC). Using the Census Planning Database (2000 Data), the Census has identified three HTC profiles:

- High density areas w/ethnic enclaves,
- Unattached, mobile singles, and
- Economically disadvantaged.

While the research is national in scope (exception noted below), the Census Bureau focuses specifically designed data collection efforts toward these sub-groups to ensure inclusion in the Census Barriers Attitudes and Motivators Survey. First, MACRO will include personal visit interviews among 4 hard-to-count strata including American Indians, Hispanics, Asians, and the economically disadvantaged households residing in rural areas. Previous research indicates that these populations would be under-represented in a RDD landline-only survey. MACRO believes personal visit interviews will be more successful in interviewing these hard-to-count segments. MACRO will also include a cell-phone stratum in an attempt to reach the unattached/mobile/single segment.

For the address sample (conducted via PAPI), MACRO expects to attain a 50-60 percent response rate. For the landline RDD sample (conducted via CATI), MACRO expects to attain a 40-50 percent response rate. For the cell phone RDD sample (conducted via CATI), a 30-40 percent response rate is expected. We expect these response rates to be sufficient for the intended purposes of the data. The results are being used for internal Census purposes to design and plan the ICP and not for official benchmarks or official population estimates. Furthermore, the primary unit of analysis is the audience segmentation clusters rather than the household level. At this time, a nonresponse bias analysis is not planned, however, it will be possible to compare some sociodemographic cluster characteristics in the existing cluster database to that obtained by the survey. This will assess the degree to which the survey clusters align with the larger population but will not necessarily reflect the degree of "bias".

Address Sampling – Personal visit	Sites	Interviews
American Indian Reservations	5	200
High Hispanic population density	5	200
High Asian population density	5	200
Rural economically disadvantaged	5	200
	20	800

Telephone Sampling	Interviews

Big-Market	900
High HTC	400
Mid HTC	300
Low HTC	200
Mid-Market	900
High HTC	400
Mid HTC	300
Low HTC	200
Small-Market	900
High HTC	400
Mid HTC	300
Low HTC	200
	2700
National cell phone sample	300

The Census Bureau is conducting a dress rehearsal for the 2010 Census in two geographic areas:

- San Joaquin County, CA (approx. 230,000 housing units)
- City of Fayettville, N.C. and 9 surrounding counties (Chatham, Cumberland, Harnett, Hoke, Lee, Montgomery, Moore, Richmond, Scotland).

These two areas will be excluded from this data collection to avoid public confusion and not overburden these populations.

2. Procedures for Collecting Information

Based on the sample size we expect a 95 percent error margin of approximately ±2.0 percent and ±4.0 percent for each market size. Within each market, we expect a 95 percent error margin of approximately ±6.0 percent. These error margins are based on measuring a population percentage of 50 percent with design effects of 2.0 overall and 1.5 for each market.

Stratification

The Census Planning Database (PDB), based on response behavior from Census 2000, provides hard-to-count (HTC) scores and community demographics detailed to the tract level. Using this file and complementary Census 2000 geographic files, MACRO will stratify census tracts to support data collection for the historically HTC profiles identified by the Census Bureau and oversampling in other HTC areas. The stratification is defined as:

1. *American Indian Reservations*: Census tracts located on American Indian reservations.
2. *High Hispanic population density*: Census tracts with a high percentage of Hispanic population and linguistic isolation.
3. *High Asian population density*: Census tracts with a high percentage of Asian population and linguistic isolation.
4. *Rural economically disadvantaged*: Rural census tracts with a high percentage of unemployed, households living in poverty and public assistance.
5. *Big-market*: Census tracts in large media markets as defined as the 10 largest Designated Market Areas (DMA) in terms of television households.6

a. High HTC score—top 20 percent of tracts in terms of HTC.
b. Mid HTC score—tracts in the 20th – 50th percentile HTC.
c. Low HTC score—lowest 50 percent of tracts in terms of HTC.

6. *Mid-market*: Census tracts in medium-sized media markets as defined by DMAs with 600,000 to 2,000,000 television households.
    a. High HTC, b. Mid HTC, c. Low HTC.
7. *Small-market*: Census tracts in medium-sized media markets as defined by DMAs with less than 600,000 television households.
    a. High HTC, b. Mid HTC, c. Low HTC

Sample Selection

For Strata 1-4, MACRO will select a 2-stage sample of addresses. They will select a sample of five sites (groups of census tracts) with probability proportional to size (PPS) where the number of households in the tract is the measure of size. A systematic PPS sample of census tracts (*m*) will be sampled from each stratum with the tracts sorted by state and county FIPS code and census tract number. Within each tract, a systematic sample of *n* addresses will be selected, with the addresses sorted by delivery sequence number. An equal number of addresses will be selected from each selected site so that the sample is self-weighting within each stratum.

For Strata 5-7, MACRO will select an equal probability sample of telephone numbers from a list-assisted RDD sampling frame. A mapping of telephone exchanges to census tracts informs the appropriate telephone numbers to include in the frame for each stratum. After mapping the telephone exchanges, all possible telephone numbers are then divided into blocks (or banks) of 100 of numbers. A 100-block is the series of 100 phone numbers defined by the last two digits of a 10-digit phone number. For phone numbers with the first eight digits in common, there are 100 possible combinations of the last two digits (ranging from 00-99)—this is one 100-block. To greatly enhance efficiency (and reduce costs) zero-blocks, or 100 blocks with zero listed phone numbers, are excluded from the sampling frame.

Estimation

Survey estimates will be based on weighted data. The data will be weighted with a multi-stage process starting with a base weight equal to the inverse of the selection probabilities. These weights will then be weighted to account for nonresponse and then calibrated to match population totals as measured by the 2007 American Community Survey.

The telephone nonresponse adjustments are based on simple ratio adjustments to help proportion the cell phone sample with the landline sample. We will compute three adjustments for the cell and landline samples:

- Unresolved telephone status (working or not),
- Unknown eligibility (such as when the respondent hangs up before we establish eligibility), and

- Interview nonresponse (when the respondent terms out in the middle of the survey).

The three adjustments are

$$NR = \frac{WN + X_2 + U_2}{WN + X_2} \times \frac{WN}{C + R + X_1} \times \frac{C + R}{C} = NR_1 \times NR_2 \times NR_3,$$

with the following telephone call outcomes:

- Working number (*WN*)
  - Eligible respondent
    - Completed interview (*C*)
    - Refused or did not finish interview (*R*)
  - Ineligible respondent (X_1)
  - Unknown if eligible for the survey (U_1)
- Ineligible number (X_2)
- Unresolved number eligibility (U_2)

Each adjustment will be computed for weighting cells that include stratum and region. Additional information (such as that obtained during screening) that may be available for respondents and nonrespondents may also be used. For the address sample, the nonresponse adjustment is a simple ratio adjustment within each site. The adjustment ratio adjusts the responding households to reflect the total number of occupied households (vacancies and uninhabitable units are excluded).

3. Methods to Maximize Response

Address Sample: A pre-notification letter will be sent to all selected addresses. The letter describes the study, indicates the anticipated length of the interview, mentions an incentive, and provides a survey verification line for respondents to call with questions or to verify the authenticity of the survey.

Upon contact, an unconditional gift of $10 will be offered. The gift will be provided to an adult resident of the household. Initial refusals will be revisited at a different time and day for a second attempt at an interview. Each household will receive up to four contact attempts on varying days of the week (i.e., weekdays, Saturday and Sunday) and at varying times of day (i.e., morning, early and late afternoon, and early and late evening).

A “Sorry I Missed You” card will be left if no one is home when the interviewer visits. The card provides a brief description of the study and asks the household to contact the interviewer at the number provided.

Interviewers will complete a *Household Observation Form* for each address—both responding and nonresponding. Interviewers will also record the day, date, time, and result of each contact attempt for that household. Interviewers will also record housing units that are not listed on the DSF (half-open interval evaluation) so that address coverage can be evaluated.

RDD Landline Sample: MACRO will reverse match the selected telephone numbers to local telephone directories to identify addresses for listed telephone numbers. A pre-notification letter will be sent to selected telephone numbers with a listed address. The letter describes the study, indicates the anticipated length of the interview, and provides a survey verification line for respondents to call with questions or to verify the authenticity of the survey.

MACRO will make up to 10 attempts to reach and interview the selected telephone number. For each attempt, the outcomes of the previous attempts are displayed so the interviewer knows the call history prior to making contact.

The majority of attempts will occur during the most productive time periods: weekday evenings, Saturday days, and Sunday evenings. About 10 to 20 percent of the attempts will be scheduled for weekdays to reach respondents who may not be available during the more productive evening and weekend hours.

RDD Cell Phone Sample: MACRO will make up to 5 attempts to reach and interview the selected cell phone number. Call attempts are spread out over days and evenings throughout various days including weekdays, Saturdays, and Sundays. For each attempt, the outcomes of the previous attempts are displayed so the interviewer knows the call history prior to making contact.

Respondents will be offered a $10 gift upon completion of the survey.

4.Testing of Procedures

The questionnaire will undergo pretesting with about 15-20 respondents. The testing focuses on survey content, understandability and flow. Following this, question wording, ordering, and/or interviewer instructions may be revised. The CATI instrument is also subjected to logic and skip pattern testing, timing tests, and data output review.

5.Contacts for Statistical Aspects and Data Collection

DraftFCB will analyze the data. Ms. Tanya White of Draft FCB is the contact person for the data analysis. Macro International will conduct the data collection. Mr. Randal ZuWallack of Macro International is the contact person for the statistical aspects of the survey and the data collection. Ms. Nancy Bates of the Census Bureau is the contact person within the agency.

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Attachments:

A. Census Barriers Attitudes and Motivators Survey
B. PAPI Pre-notification letter
C. CATI Pre-notification letter