The NSF-Census Research Network (NCRN)

PROGRAM SOLICITATION
NSF 10-621

National Science Foundation

Directorate for Social, Behavioral & Economic Sciences
   Division of Social and Economic Sciences

U.S. Census Bureau

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):

   February 16, 2011

IMPORTANT INFORMATION AND REVISION NOTES

Important Clarifications for Proposals Regarding Census Bureau Staff Members - January 10, 2011

(1) To avoid giving some proposals unfair advantage over others, the Census Bureau informed its employees in mid-December that no Census Bureau staff member may be listed as having committed their time to a proposal submitted to the NCRN solicitation. NSF and the Census Bureau would like to make sure that the research community understands the implications of this decision for proposals submitted to the solicitation.

Because Census Bureau employees may not serve as active participants on proposals submitted to this competition, the successful completion of the proposed research should not depend on the collaboration of specific individual Census Bureau staff members.

Investigators may reference past activities with Census staff members and/or the Census Bureau in their proposals, and Census Bureau experts may be consulted in the preparation of proposals. In addition, the Census Bureau expects to be able to provide targeted expertise to funded nodes as appropriate. Please note that the Project Description has a section entitled *Resources from the Census Bureau*. Requests for expertise should be included in that section. For more information, see Section V. Proposal Preparation and Submission Instructions.

Over time, NSF and Census hope to foster more significant collaborations between funded nodes and Census staff members.

(2) Proposals submitted to this solicitation should not request funds for the establishment of a new Research Data Center (RDC). NSF and the Census Bureau have a separate and independent process for the establishment of new RDCs. More information on RDCs is available at http://www.census.gov/ces/.

Proposals submitted to this solicitation are not required to use data at one of the existing RDCs. However, if access to confidential data at an RDC is necessary for the project, then access costs should be included in the proposal.

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A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG), NSF 11-1, was issued on October 1, 2010 and is effective for proposals submitted, or due, on or after January 18, 2011. Please be advised that the guidelines contained in NSF 11-1 apply to proposals submitted in response to this funding opportunity. Proposers who opt to submit prior to January 18, 2011, must also follow the guidelines contained in NSF 11-1.

Cost Sharing: The PAPPG has been revised to implement the National Science Board's recommendations regarding cost sharing. Inclusion of voluntary committed cost sharing is prohibited. In order to assess the scope of the project, all organizational resources necessary for the project must be described in the Facilities, Equipment and Other Resources section of the proposal. The description should be narrative in nature and must not include any quantifiable financial information. Mandatory cost sharing will only be required when explicitly authorized by the NSF Director. See the PAPP Guide Part I: *Grant Proposal Guide (GPG)* Chapter II.C.2.g(xi) for further information about the implementation of these recommendations.

Postdoctoral Researcher Mentoring Plan: As a reminder, each proposal that requests funding to support postdoctoral researchers must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals. Please be advised that if required, FastLane will not permit submission of a proposal that is missing a Postdoctoral Researcher Mentoring Plan. See Chapter II.C.2.j of the GPG for further information about the implementation of this requirement.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

The NSF-Census Research Network (NCRN)

Synopsis of Program:

The NSF-Census Research Network will provide support for a set of research nodes, each of which will be staffed by a team of scientists conducting interdisciplinary research and educational activities on methodological questions of interest and significance to the broader research community and to the Federal Statistical System, particularly the U.S. Census Bureau. The activities will be expected to advance both fundamental and applied knowledge as well as further the training of current and future generations of researchers in research skills of relevance to the measurement of economic units, households, and persons.

Cognizant Program Officer(s):

Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.

- Cheryl L. Eavey, 995 N, telephone: (703) 292-7269, email: ceavey@nsf.gov

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.075 --- Social Behavioral and Economic Sciences

Award Information

Anticipated Type of Award: Standard Grant or Cooperative Agreement

Estimated Number of Awards: 8 to 12

Anticipated Funding Amount: $18,500,000 in FY 2011, subject to the availability of funds. NSF and the U.S. Census Bureau expect to commit a total of $18,500,000 in FY 2011 to the support of a network of research nodes. In FY 2014, research nodes may request renewal awards for up to an additional five years of support from FY 2016 to FY 2020. Supplements may be available for additional work within the scope of the project as defined by the proposal.

Eligibility Information

Organization Limit:

Proposals may only be submitted by the following:

- Universities and Colleges - Universities and two- and four-year colleges (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.

PI Limit:

None Specified

Limit on Number of Proposals per Organization: 2

There is a limit of two (2) proposals that may be submitted by an institution either as a single institution or as a lead institution in a multi-institutional proposal.

A multi-institutional proposal is defined as one that has a subaward to one or more different institutions than the lead institution.

For purposes of this solicitation, separate institutions are defined as those with separate Sponsored Projects Offices (SPO), even if those institutions are different campuses of the same multi-campus university. For example, if PIs at two different campuses of an academic institution each submit a proposal through the same SPO, then both proposals are counted toward the maximum for that institution.

Limit on Number of Proposals per PI: 2

An individual may participate as Principal Investigator, co-Principal Investigator or other Senior Personnel in at most two proposals. If an individual is listed as PI, co-PI, or Senior Personnel on three or more proposals, all of these proposals will be returned without review.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable

- **Preliminary Proposal Submission:** Not Applicable

- **Full Proposals:**
  - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
  - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)

B. Budgetary Information

- **Cost Sharing Requirements:** Inclusion of voluntary committed cost sharing is prohibited.

- **Indirect Cost (F&A) Limitations:** Not Applicable

- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. proposer's local time):

    February 16, 2011

Proposal Review Information Criteria

Merit Review Criteria: National Science Board approved criteria. Additional merit review considerations apply. Please see the full text of this solicitation for further information.

Award Administration Information

Award Conditions: Additional award conditions apply. Please see the full text of this solicitation for further information.

Reporting Requirements: Standard NSF reporting requirements apply.

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I. INTRODUCTION

The National Science Foundation and the U.S. Census Bureau invite teams of researchers to submit proposals for the conduct of long-term interdisciplinary research and educational activities on methodological questions of interest and significance to the broader research community and the Federal Statistical System, particularly the U.S. Census Bureau. The activities will be expected to advance both fundamental and applied knowledge, and contribute to the training of the next generation of researchers in research skills of relevance to the measurement of economic units, households, and persons.

With these awards, NSF and the U.S. Census Bureau will create a Network of Nodes (NoN) with complementary research foci. The research program will be defined to include the major measurement challenges of the social, behavioral, and economic sciences relevant to the U.S. Census Bureau. When appropriate, research may be conducted in collaboration with scientists at the U.S. Census Bureau or other federal statistical agencies. Nodes may conduct independent research activities and/or partner with existing Census Research Data Centers (RDCs).

II. PROGRAM DESCRIPTION

The current level of research discoveries and innovation concerning measurement in the social and economic sciences is not sufficient to match the rapid changes in the populations they study. Many of the key disciplines within those fields focus on measurement only as a secondary consideration. The Federal Statistical System provides many of the key data resources for the social and economic sciences, but it is facing significant challenges, including declining response rates with its major data collections, learning how to combine survey and administrative data, the need to integrate advances in statistical computing into the work of the system, and meeting the demands for seamless integration of spatial, organizational, environmental, household, and personal data. The system requires advances in the timeliness, granularity, longitudinality, and dimensionality of its data. Currently, the research needs of the Federal Statistical System outpace the rate of PhD level scientists entering the system.

The NSF-Census Research Network (NCRN) seeks to support a set of research nodes that will conduct long-term, interdisciplinary methodological research and educational activities on issues relevant for the production of data and related statistics. The goals of this funding opportunity are as follows:

1. Establish a set of complementary research programs that advance the development of innovative methods and models for the collection, analysis, and dissemination of data in the social, behavioral, and economic sciences.
2. Relate fundamental advances in methods development to the problems of the Federal Statistical System, particularly the U.S. Census Bureau.
3. Facilitate the collaborative activities of scientists from across multiple disciplines, including the social, behavioral, and economic sciences, the statistical sciences, and the computer sciences.
4. Foster the development of the next generation of researchers in research skills of relevance to the measurement of economic units, households, and persons.

To accomplish these goals, NSF and Census seek proposals for research nodes that will produce new knowledge and a new cohort of researchers conducting interdisciplinary research on issues related to data collection, analysis, and dissemination. The size, structure, collaborative arrangements, and operation of each node should be appropriate for the proposed research, education, and outreach activities.

Two types of research nodes will be supported as a result of the FY 2011 NCRN competition:

- Small Nodes. Awards will require efforts up to a level roughly comparable to: two-months support for two or three investigators with complementary expertise; a post-doctoral researcher; two or three graduate students; and their collective research needs (e.g. materials, supplies, travel, small data collection activities) for three to five years. The integrative contributions of the node should exceed the sum of the contributions of each individual member of the team. The maximum available for a Small Node is $1.2 million in total costs over the length of the award.
- Medium Nodes. Awards for Medium Nodes will require efforts up to a level roughly comparable to: 2-months support for three or more investigators with complementary expertise; three or more graduate students; relevant senior personnel (including post-doctoral researchers and staff); and their collective research needs (e.g. materials, supplies, travel, small data collection activities) for five years. The integrative contributions of the node should clearly be greater than the sum of the contributions of each individual member of the team. The maximum available for a Medium Node is $3 million in total costs over the length of the award.

In subsequent years, subject to availability of funds, funding opportunities will be provided for three classes of awards, Small and Medium Nodes as defined above, and Large Nodes as defined below:

- Large Nodes. Awards for Large Nodes will require the engagement of larger (than Medium Nodes) multidisciplinary teams, roughly comparable to multiple senior investigators with complementary expertise, multiple graduate students, several senior personnel, and their collective research needs (e.g. materials, supplies, travel) for up to five years. As for Medium Node awards, the integrative contributions of the Large Node clearly should be greater than the sum of the contributions of each individual member of the team.

To be competitive, proposals should outline plans for a node that will do all of the following:

- Conduct fundamental, interdisciplinary research that advances the development of innovative methods and models for the collection, analysis, and dissemination of data in the social, behavioral, and economic sciences. Because solving these problems will require creative solutions drawing on knowledge and expertise from multiple disciplines, collaborations among the relevant sciences are encouraged, including the social sciences, economics, geographic sciences, linguistics, cognitive sciences, statistical sciences, and computer science.
- Apply basic research findings to the short- and/or long-term problems of the Federal Statistical System, particularly the U.S. Census Bureau. Proposals must outline a program of applied research that emanates from the basic research program. Nodes will be expected to interact with Census staff regarding their research findings, and work with Census staff when appropriate to implement advances within the U.S. Census Bureau.
- Provide education and research opportunities for students and faculty. The individuals and groups to be served through these educational efforts may be varied and may include undergraduate and graduate students, postdoctoral researchers, students from groups underrepresented in the social and behavioral sciences, and/or visiting scientists and engineers. A long-term goal of each node, however, should be to contribute to the pipeline of researchers working in these areas. Appropriate activities to accomplish this goal include actively involving students in the research process, the production of dissertations related to the research goals, and the development of graduate-level seminars in advance topics on research methodology related to the research program.
- Develop and disseminate tangible products for researchers, both within academia and the Federal Statistical System. Dissemination may include a range of products, including scientific articles in traditional outlets, reports recommending improvements in Census Bureau programs, dissemination at the Census Bureau or other relevant federal statistical agencies, software, and hardware for use in data collection and management at the Census Bureau and by others.

A proposal may be submitted for a research program on any issue or set of issues related to the data collection, analysis, and dissemination process that encompasses the broad goals listed above. NSF and Census will develop an overall structure that will link the nodes into a network that will facilitate interactions among nodes and the federal statistical agencies.

Some questions currently of interest related to data collection, analysis, and dissemination processes include the following (these topics are not exhaustive):

Traditional concepts of family and households, as well as traditional concepts of economic units, are rapidly evolving.

- What methods can improve universe frame coverage of persons with intermittent ties with households, for entrepreneurial activities leading to new economic units in economic unit frames?
- What data auxiliary to households and covered persons might be used to estimate the propensity to be covered, as a targeting tool for alternative ways of assembling universe frames?
- Can theories be developed to guide research decisions for sampling unit definitions (derived from frames) and measurement units (e.g., enterprises vs. establishments, households vs. persons) to improve overall designs?
- How can estimates of immigration (both documented and undocumented) be improved?
- Is the concept of an "establishment" still relevant given changing business models and increasingly heterogeneous economic activity?

Participation rates in sample surveys of households and economic units are declining.

- What theories can inform the linkage between nonresponse rates and nonresponse errors?
- What data might be collected or linked to traditional survey data to improve the postsurvey adjustment for nonresponse to reduce nonresponse errors?
- What mechanisms underlie the finding that offering choices of alternative modes of data collection depress overall participation? What antidotes might be created to reduce that effect?
- How can administrative records on persons, households, and economic units be used in conjunction with traditional sample surveys to reduce the nonresponse error of traditional surveys?

The complexity of economic units is increasing, with multiple establishments, loose alliances, multiple lines of business, virtual spatial attributes, and highly dynamic structures.

- How can administrative records be used to improve the tailoring of measurement techniques to diverse types of economic units?
- How can changes in key attributes of economic units be tracked over time to improve the collection of data from the units?
- In longitudinal measurement, how can deaths, mergers, and acquisitions of economic units be forecasted to permit real-time measurement of those phenomena?
- How can multiple modes of data collection facilitate measurement of complex economic units?
- How can we more accurately classify heterogeneous economic activity within business enterprises, individual locations, or aggregates of locations?

Editing and imputation techniques commonly used in sample surveys currently have few evaluative frameworks that guide decisions on what approaches maximally reduce bias in final estimates.

- What logical or statistical approaches might offer guidance to the tradeoff decision of how much editing is optimal for diverse purposes?
- What editing algorithms might be developed to reduce the post-estimation review processes common in statistical estimation?
- What computer-assistance in editing might be developed to reduce the use of subject matter expertise in the review of data from longitudinal and other surveys?
- How can empirical diagnostic tools for evaluating auto-coding algorithms and large scale imputation approaches be improved?

Administrative records, when combined with survey data, may offer radically increased efficiencies in household and business surveys.

- What mathematical and statistical frameworks might be used to improve inference from probabilistically linked data sets?
- How can the social science community effectively monitor public attitudes toward administrative record usage?
- What conceptual frameworks might be developed to measure the error properties of linked survey and administrative record data?
- What imputation techniques can be created to deal with item missing data in linked files with variables common to multiple data sets?

While public use data sets have greatly benefited quantitative research in the social sciences, the data are increasing threatened by risk of inadvertent reidentification of sample members.

- What disclosure avoidance techniques can be developed to preserve pledges of confidentiality and maximize access to data?
- Can disclosure risk measurements be invented to guide practical decisions of data collectors regarding the release of data?
- How can synthetic data be produce that mimic the statistical properties of actual data but protect the identity of respondents?
- What effective analytic software approaches might be used to permit analysis of data without direct access to the data and protect pledges of confidentiality?

Small domain estimation using survey data offers the promise of greatly expanded useful estimates from sample surveys.

- How can model diagnostics be improved on small domain estimators?
- What small domain estimation approaches can exploit the longitudinal nature of surveys?
- What alternative approaches offer improved simultaneous estimation of small domains and higher level aggregates?
- What practical estimators of total error of small domain estimates might be developed for public dissemination?

Cognitive and social psychological insights into respondent self-reports in social science research have reduced measurement errors.

- What questionnaire development tools are superior for detecting different mechanisms of response error?
- What diagnostic tools in instrument development can be enhanced through computer assistance?
- How do we identify optimal measurement approaches for a single construct using individual modes of data collection?
- What diagnostics can be developed to isolate translation errors as a distinct component of measurement error in multi-language measurement?

The use of statistical models for large-scale descriptive statistics has advanced in important ways.

- How can diagnostic tools be advanced to measure potential model-specification errors within a total error framework for the estimates?
- What diagnostic tools might be developed using model-based approaches to identify errors in tabular data?
- What models might be useful to estimate sampling error covariances and auto covariances in longitudinal estimates?
- What statistical models might be useful to forecast final estimates based on preliminary measurements of a sample?

New approaches to disseminating census data to users are emerging, and new requirements for confidentiality protection will be required.

- What metadata approaches will be most useful in documenting census data, and how can existing metadata systems be improved?
- How can census data dissemination, including both tabular and microdata, be improved?
- What are the most significant risks in disseminating census data to user communities, and how can those risks be diminished?
- What approaches can be developed that will allow the user community to safely and securely access census and other administrative data that have been merged across multiple agencies or sources?

III. AWARD INFORMATION

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds. NSF and the U.S. Census Bureau expect to have approximately $18.5 million available to support awards resulting from this competition. Budgets and project durations should be developed at scales appropriate for the research program to be conducted. The Census Bureau will offer necessary research staff collaborators and access to data resources from Census Bureau surveys and censuses at no cost to successful applicants. Access to data resources may involve the creation of a Census Bureau Research Data Center at the institution, handled through a separate agreement with the Census Bureau. Depending on the quality of proposals and the availability of funds, NSF anticipates making 8 to 12 awards.

IV. ELIGIBILITY INFORMATION

Organization Limit:

Proposals may only be submitted by the following:

- Universities and Colleges - Universities and two- and four-year colleges (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.

PI Limit:

None Specified

Limit on Number of Proposals per Organization: 2

There is a limit of two (2) proposals that may be submitted by an institution either as a single institution or as a lead institution in a multi-institutional proposal.

A multi-institutional proposal is defined as one that has a subaward to one or more different institutions than the lead institution.

For purposes of this solicitation, separate institutions are defined as those with separate Sponsored Projects Offices (SPO), even if those institutions are different campuses of the same multi-campus university. For example, if PIs at two different campuses of an academic institution each submit a proposal through the same SPO, then both proposals are counted toward the maximum for that institution.

Limit on Number of Proposals per PI: 2

An individual may participate as Principal Investigator, co-Principal Investigator or other Senior Personnel in at most two proposals. If an individual is listed as PI, co-PI, or Senior Personnel on three or more proposals, all of these proposals will be returned without review.

Additional Eligibility Info:

Although only academic institutions in the U.S. are eligible to submit proposals for this competition, other organizations may participate as partners with the lead academic institution and may be supported via subawards. Types of organizations that may participate as partners include non-profit, non-academic organizations, independent museums, research labs (including Federally Funded Research and Development Centers (FFRDCs) and other national labs), professional societies, and for profit organizations.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Full Proposal Preparation Instructions: Proposers may opt to submit proposals in response to this Program Solicitation via Grants.gov or via the NSF FastLane system.

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and

submitted in accordance with the general guidelines contained in the NSF Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov. Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

The following information deviates from the Grant Proposal Guide (GPG) and NSF Grants.gov Application Guide:

Proposal Format

Proposals not in conformance with the proposal-preparation requirements of the GPG or NSF Grants.gov Application Guide will be returned without review. Please note, however, that the page limits contained in this solicitation take precedence over those given in the GPG and NSF Grants.gov Application Guide.

Proposals submitted for this competition should clearly specify all relevant parts of the proposed project. With respect to the proposed research, the proposal should outline the theoretical foundations of the project as based in relevant literature. It should specify the questions on which the research will focus, the research methods that will be used, the expertise that different researchers will bring to different facets of the project, and how and where results will be disseminated. The proposal should describe the applied research that will be conducted and address the implications of that research for the problems of the federal statistical agencies. With respect to education, the proposal should specify educational goals, what methods will be used to attain those goals, and the expertise of individuals who will participate in educational efforts. With respect to dissemination, the proposal should discuss how the products of the proposed research will be disseminated to the broader research community and to the Federal Statistical System.

This program solicitation requests material about the personnel involved in the project. Please use the following definitions to provide the corresponding information.

- **Principal Investigators** -- Individuals who would assume responsibility for an award resulting from this competition, would manage the award, and are listed on the cover sheet of the proposal.
- **Senior Personnel** -- All Principal Investigators, as well as any named other senior personnel who will receive salary support, as well as non-salaried senior investigators who will play lead roles in the conduct of the project. This group may include active participants in the research team from outside the U.S.
- **Project Participants** -- Every person involved with the research project, including students.

Proposal Cover Sheet

The title of the proposal should specify one of the following prefixes to designate the specific kind of proposal being submitted:

- NCRN-MN: (This prefix is used for a Medium Node.)
- NCRN-SN: (This prefix is used for a Small Node.)

The substantive title of the project should follow the prefix.

Project Description

Project descriptions for Small Nodes are limited to 18 pages in length. Project descriptions for Medium Nodes are limited to 22 pages in length. With the exceptions noted below, proposers may organize the different components of the project description as they wish.

The following sections **MUST** be included under separate headings in the project description:

- *Results from Prior NSF Support*. This section is required only for principal investigators and co-investigators who have received NSF funding in the last five years. (This section may be up to five pages in length.)
- *Education Plan*. The research plan should include integrated educational activities as a part of the narrative. Highlight these integrated activities in this section by specifying the project's educational goals, the methods that will be used to attain those goals, how the educational activities will be evaluated, and the role of project personnel in educational efforts. (This section likely will be between 1 and 2 pages in length.)
- *Management Plan*. The following information should be provided: (1) a description of the management structure that will enable the node to work effectively; and (2) specification of the qualifications of each of the senior personnel as well as the contribution they are expected to make to the project. This section increases in importance as the number of senior personnel or institutions involved in the project increases. (This section likely will be between 1 and 2 pages in length.)
- *Expected Project Significance*. This section should clearly specify what proposers expect will be the results and contributions of the project. The section should describe both the anticipated intellectual merit of the proposed work as well as its anticipated broader impacts, including potential benefits for the federal statistical agencies. Examples illustrating activities likely to demonstrate broader impacts also are available electronically at http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf. Education and international activities are among the examples. (This section likely will be about 1 page in length.)
- *Resources from the Census Bureau.* This section should briefly describe any resources that the node expects to need from the Census Bureau to complete the activities outlined in the proposal. If the expectation is that no resources will be required, it is sufficient to state that in this section of the proposal. (This section likely will be about 1/2 to 1 page in length.)
- *Potential Capabilities of the Node*. This section should describe potential future activities that the node would have an interest in pursuing if additional funds were available. Information should be provided on the intellectual basis for the proposed activities, the relationship between the proposed project and potential future activities, and a brief plan for the possible research. (This section likely will be two the three pages in length.)

Biographical Sketches

A biographical sketch with a 2-page limit must be provided for each investigator and each person identified as senior personnel. All biographical sketches should be prepared in conformance with the requirements in Chapter II, Section C.2.f of the Grant Proposal Guide and should include identification of collaborators and advisors/advisees.

Current and Pending Support

Each person identified as a principal investigator or as senior personnel must submit a current and pending support form. This proposal is considered a pending activity and should be listed on the form for all investigators and senior personnel.

Supplementary Documentation

Items 1 and 2 below are required to be included in this section for all proposals. Items 3, 4, and 5 should be included here if needed.

1. Conflict of Interest Table. Provide a list in a single, alphabetized table with the full names and institutional affiliations of all people in conflict of interest with any of the senior personnel (PI, Co-PIs, and any named personnel whose salary is requested in the project budgets). Conflicts to be identified are (a) primary Ph.D. thesis advisors and advisees, (b) collaborators or co-authors, including postdocs, for the past 48 months, and (c) any other individuals or organizations with which the investigator has financial ties. (Please specify the type of conflict(s) for each person listed on the chart. This list generally replicates information that should be provided in the biographical sketches, but it is collated into one alphabetized table to facilitate the identification of individuals who would have conflicts of interest in the review of the proposal.) An example of the kind of table to be included is accessible at: http://www.nsf.gov/sbe/ses/mms/NCRN_Example_COI_List.pdf.

2. Data Management Plan. Provide a description of the project's data management plan, as a maximum 2-page supplementary document. This information should be clearly identified by the subheading "Data Management Plan." NSF realizes that individual cases may differ widely and that an absolute timeline or rigid set of rules is not possible. However, plans should address some or all of the following issues:

- The types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;
- The standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies);
- Policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
- Policies and provisions for re-use, re-distribution, and the production of derivatives; and
- Plans for archiving data, samples, and other research products, and for preservation of access to them.

The data management plan is considered an integral part of the project and therefore subject to reviewer, panel, and program evaluation. Successful applicants will be expected to address this issue in annual and final project reports.

If no data will be generated during the conduct of a project, this section must state that fact.

3. Postdoctoral Researcher Mentoring Plan. As specified in the NSF Grant Proposal Guide (Chapter II, Section C.2.j), a Postdoctoral Researcher Mentoring Plan must be submitted as supplementary documentation to describe mentoring activities that will be provided for any postdoctoral researchers who will be supported through an award based on this proposal.

The Postdoctoral Researcher Mentoring Plan is considered an integral part of the project and therefore subject to reviewer, panel, and program evaluation. Successful applicants will be expected to address this issue in annual and final project reports.

4. Letters of Collaboration. This section should include any letters of collaboration from individuals or organizations that are integral parts of the proposed project, such as the involvement of an international collaborator or permission to access sites, materials, or data for research or other associated project activities. Letters of collaboration should focus solely on affirming that the individual or organization is willing to collaborate on the project as specified in the project description of the proposal. No additional text, especially elaboration of the nature of activities to be undertaken by the collaborator and endorsements of the potential value or significance of the project for the collaborator, may be included. A template that should be used for the preparation of letters of collaboration is provided below.

Letters of collaboration are not required for any individual designated as a principal investigator or senior personnel, nor are letters of collaboration required for any organization that will be a subawardee in the proposal budget. (Inclusion of biographical sketches and current and pending support statements for individuals and subaward budgets for organizations are considered to be implicit statements affirming involvement in the proposed project.)

The project description should document the nature and need for all collaborations. Each statement must be signed by the designated collaborator. Requests to collaborators for letters of collaboration should be made by the PI well in advance of the proposal submission deadline, because they must be included at the time of the proposal submission. Letters deviating from this template are not accepted and may be grounds for returning the proposal without review.

Template to be used for letters of collaboration

To: NSF NCRN Program

From: _____

(Printed name of the individual collaborator or name of the organization and name and position of the official submitting this memo)

By signing below (or transmitting electronically), I acknowledge that I am listed as a collaborator on this NCRN proposal, entitled "_____(proposal title)_____," with _____(PI name)_____ as the Principal Investigator. I agree to undertake the tasks assigned to me, as described in the proposal, and I commit to provide or make available the resources designated in the proposal.

Signed: _____

Organization: _____

Date: _____

5. IRB Certifications. IRB certifications associated with the use of human subjects may be submitted as supplementary documentation.

Unless authorized here or in the *Grant Proposal Guide*, no other materials should be included in this section. Survey or interview

protocols are not permitted in this section, nor are reprints of articles previously published by the investigators. Proposals that include materials in this section that belong in the project description may be returned without review.

Appendices

No appendices are permitted.

Proposals Involving Multiple Organizations

In the case of proposals involving multiple organizations, a single organization must be identified as the lead, and a single proposal describing the entire project must be submitted by that organization. Funds may be distributed among partner organizations via subawards from the lead organization. A budget on the standard NSF budget form should be submitted for each subawardee. The requirement for a single organization to submit the sole proposal for a project is designed to facilitate effective coordination among participating organizations and to avoid difficulties that ensue in funded projects when individuals change organizations and/or cease to fulfill project responsibilities.

Of the two types of collaborative proposal formats described in the *Grant Proposal Guide*, this solicitation allows only a single proposal submission with subawards administered by that lead organization.

Human Subjects

If the project involves human subjects, the Institutional Review Board (IRB) of the submitting organization must certify that the proposed project is in compliance with the Federal Government's "Common Rule" for the protection of human subjects. If IRB approval has been obtained and the date of approval is listed on the cover sheet, no other certification is required. If IRB approval is still pending, submit certification of IRB approval in electronic form as soon as approval is obtained to the cognizant program officer. (The name of this program officer will be listed in the Proposal Status module of FastLane.) Delays in obtaining IRB certification may result in NSF being unable to make an award. For more information regarding the protection of human subjects, consult http://www.nsf.gov/bfa/dias/policy/human.jsp.

B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited

Other Budgetary Limitations: Budgets should be developed at scales appropriate for the project to be conducted. Successful applicants will have access to necessary Census resources at no cost. No award may be more than five years in duration.

Budget Preparation Instructions:

Both Small and Medium Nodes must participate in biannual meetings of the research network leaders for the sharing of discoveries, suggested new research paths, and evaluation of process. The costs to enable at least two representatives from each node to attend the biannual meetings should be included in the budget request.

C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. proposer's local time):

    February 16, 2011

D. FastLane/Grants.gov Requirements

- **For Proposals Submitted Via FastLane:**

    Detailed technical instructions regarding the technical aspects of preparation and submission via FastLane are available at: https://www.fastlane.nsf.gov/a1/newstan.htm. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov. The FastLane Help Desk answers general technical questions related to the use of the FastLane system. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

    Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the Grant Proposal Guide for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Further instructions regarding this process are available on the FastLane Website at: https://www.fastlane.nsf.gov/fastlane.jsp.

- **For Proposals Submitted Via Grants.gov:**

    Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: http://www07.grants.gov/applicants/app_help_reso.jsp. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

    Submitting the Proposal: Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program where they will be reviewed if they meet NSF proposal preparation requirements. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with the oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts of interest with the proposal.

A. NSF Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which the reviewer is qualified to make judgments.

What is the intellectual merit of the proposed activity?
How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

What are the broader impacts of the proposed activity?
How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF website at: http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf .

Mentoring activities provided to postdoctoral researchers supported on the project, as described in a one-page supplementary document, will be evaluated under the Broader Impacts criterion.

Additional Solicitation Specific Review Criteria

Successful NCRN proposals will conduct interdisciplinary research, well grounded in theory, which will advance both basic and applied understanding of the collection, analysis, and dissemination of data in the social, behavioral, and economic sciences. Projects also must include specific plans for education of graduate students in related fields.

In the evaluation of proposals submitted by teams of investigators, considerations in addition to standard NSF review criteria are:

- Quality and expected significance of the scientific activities.
- Strength of the collaborations planned and degree of interdisciplinarity of the research products.
- Effectiveness of plans to conduct both basic research and research that will address problems of special significance to the Census Bureau and other federal statistical agencies.
- Effectiveness of the node's organization and management plan.
- Quality and expected significance of the educational activities.
- Strength of the dissemination plans.

NSF staff also will give careful consideration to the following in making funding decisions:

Integration of Research and Education
One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

Integrating Diversity into NSF Programs, Projects, and Activities
Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

B. Review and Selection Process

NSF will manage the review of proposals in consultation with Census. Census program staff may suggest reviewers to be used in the NSF merit review process, and they may attend review panel meetings.

Proposals submitted in response to this program solicitation will be reviewed by

Ad hoc Review and/or Panel Review.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director accepts the Program Officer's recommendation.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are sent to the Principal Investigator/Project Director by the Program Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See Section VI.B. for additional information on the review process.)

B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (GC-1); * or Research Terms and Conditions * and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

*These documents may be accessed electronically on NSF's Website at http://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

Special Award Conditions: Awardees may be required to submit a strategic plan which will guide the research over the course of the award and will be updated on a yearly basis.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report will delay NSF review and processing of any future funding increments as well as any pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through FastLane, for preparation and submission of annual and final project reports. Such reports provide information on activities and findings, project participants (individual and organizational), publications, and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system. Submission of the report via FastLane constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

More comprehensive information on NSF Reporting Requirements and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

VIII. AGENCY CONTACTS

Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.

General inquiries regarding this program should be made to:

- Cheryl L. Eavey, 995 N, telephone: (703) 292-7269, email: ceavey@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

IX. OTHER INFORMATION

The NSF Website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this Website by potential proposers is strongly encouraged. In addition, National Science Foundation Update is a free e-mail subscription service designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Regional Grants Conferences. Subscribers are informed through e-mail when new publications are issued that match their identified interests. Users can subscribe to this service by clicking the "Get NSF Updates by Email" link on the NSF web site.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this new mechanism. Further information on Grants.gov may be obtained at http://www.grants.gov.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 55,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Arctic and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

Facilitation Awards for Scientists and Engineers with Disabilities provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See Grant Proposal Guide Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at http://www.nsf.gov

Location:	4201 Wilson Blvd. Arlington, VA 22230
For General Information	(703) 292-5111

(NSF Information Center):

- **TDD (for the hearing-impaired):**   (703) 292-5090

- **To Order Publications or Forms:**

    Send an e-mail to: nsfpubs@nsf.gov

           or telephone: (703) 292-7827

- **To Locate NSF Employees:**   (703) 292-5111

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; and to another Federal agency, court, or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004), and NSF-51, "Reviewer/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton
Reports Clearance Officer
Division of Administrative Services
National Science Foundation
Arlington, VA 22230

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