

## U.S. Census Bureau

### Census Bureau Section 515 Information Quality Guidelines

The Census Bureau is the largest statistical agency of the Federal Government. While best known for the decennial census of population and housing, it conducts other surveys and censuses that measure changing individual and household demographics and the economic condition of the Nation. The Census Bureau is responsible for quinquennial censuses of manufactures, retail trade, wholesale trade, service industries, finance, insurance, real estate, transportation, communication, utilities, mining, and governments. The Census Bureau also conducts approximately 200 surveys per year. It is the source of household demographic surveys sponsored by other Federal agencies, as well as by the Census Bureau. It is also the source of the country's official population estimates and projections that are used as the basis for allocating federal funds each year. Monthly, quarterly, and annual establishment surveys are funded by Congressional appropriation to yield information on the current state of the economy. Census Bureau economic surveys provide a majority of the information the Bureau of Economic Analysis uses to update Gross Domestic Product estimates, the data used by the Bureau of Labor Statistics in reporting Producer Price changes, and the data used by the Federal Reserve Board as input to indices of industrial production and capacity utilization.

Census Bureau programs support Department of Commerce Strategic Planning Goal 1: *Provide the Information and the Framework to Enable the Economy to Operate Efficiently and Equitably*, Objective 1.3: *Support Effective Decision-Making of Policymakers, Businesses, and the American Public*.

High quality publicly available statistics from Federal statistical organizations are essential for a nation to advance the economic well-being and quality of life of its people. The statistical information products provided by the Bureau of the Census are influential, shaping important policy decisions that help improve our Nation's social and economic conditions:

- Census Bureau data are used to distribute hundreds of billions of dollars in federal funding.
- Census Bureau data are essential for estimating the gross domestic product (GDP) and leading economic indicators.
- Census Bureau data determine the apportionment of Congressional seats, as mandated in the Constitution.
- Census Bureau data inform us about education, income, poverty, and health insurance coverage.
- National, state, and local governments use Census Bureau data to formulate policy.
- Large corporations and local businesses use Census Bureau data to devise their business plans.

The Census Bureau is one of 10 principal statistical agencies in the Federal government. A statistical agency, as defined in the Federal Register January 29,

1996 (Volume 61, Number 20, pages 2875-2879), is an agency or organizational unit of the Executive Branch whose activities are predominantly the collection, compilation, processing or analysis of information for statistical purposes. Statistical agencies have long been leaders in the development and implementation of quality guidelines for information products. As with other statistical agencies, the information quality guidelines of the Census Bureau will supplement those of the department of which we are part, the Department of Commerce (DOC); we also conform to the guidelines of the DOC.

The Office of Management and Budget (OMB), in its February 22, 2002 issuance of government-wide information quality guidelines, recognizes that Federal statistical organizations provide a substantial variety of data. Accordingly, while the Census Bureau will be part of [a joint Federal statistical agency notice on information quality guidelines](#), it presents its specific response to the OMB directive on quality, including utility, objectivity, and integrity. The Census Bureau considers its published statistical information to be "influential," and does not distinguish among the many data it releases annually those which are more or less influential. The Census Bureau does not disseminate other kinds of data beyond statistical information that are covered by OMB's directive. The original and supporting data it collects and develops to generate its statistical information products are covered by the same quality guidelines as the information it disseminates, and are proprietary and confidential. Analyses it conducts that become part of Census Bureau statistical information products are covered by the same quality guidelines. For non-scientific, non-financial, non-statistical disseminated information, the Census Bureau follows the quality guidelines determined by the Department of Commerce. There is a process in place for adding disclaimers to work produced under grants and awards, and papers written and speeches given by Census Bureau employees, which do not fall under section 515 information quality guidelines.

The Census Bureau maintains the quality of its data and information products by setting high standards of performance in its activities. These activities include:

- [The development of concepts and methods;](#)
- [The planning and design of surveys and other means of collecting data;](#)
  - [The collection of data;](#)
  - [The processing and editing of data;](#)
  - [The analysis of data;](#)
- [The production of estimates or projections;](#)
- [The establishment of review procedures; and](#)
- [The dissemination of data by published reports, electronic files, and other media requested by users.](#)

### Utility

Utility involves the usefulness of the information to its intended users. The requirements of utility are ongoing for a Federal statistical agency like the Census Bureau, which must be engaged in the continual development of more useful data.

**In establishing its priorities for statistical programs for the purpose of providing objective information that is relevant to policy and program needs, the Census Bureau works closely**

**with the users of information in the executive branch, the Congress, interested nongovernmental people and groups, advisory committees, and the sponsors of its reimbursable surveys, as well as conducting ongoing surveys of data users and product reviews.** The demographic and economic data and information the Census Bureau produces are critical to understanding the health and well-being of the population, business and industry. Our goals and programs reflect a commitment to respond to the Nation's growing need for extensive, timely, and accurate data to understand the increasing complexities of its population and its economy.

**The data content requirements of some of our key programs, such as the decennial census, are reviewed by OMB and by the Congress.** The Constitution of the United States mandates the taking of the census every ten years, and the decennial census is the foundation on which our democratic system of government is built. Title 13 of the United States Code includes provisions about how the decennial census shall be taken, and also grants authority for the economic censuses, which seek to measure virtually all economic activity in the U.S.

**The Census Bureau maintains ongoing contact with a broad spectrum of users to ensure that its information continues to remain relevant.** Information collected by the Census Bureau is designed to provide measures that are relevant for policy decisions. These measures are released to the public as official statistics. Relevance is the degree to which the official statistics provide useful information for both current needs and anticipated future needs.

**The Census Bureau produces and releases data in a timely manner.** Timeliness encompasses the frequency of data release, as well as the closeness of the release to the data's reference period. Efforts are made to collect and publish data in a time interval that allows high quality data to be released and also ensures that the information is usable.

**The Census Bureau releases data products in a manner that allows them to be accessible to a broad range of data users with different requirements for data availability and understandability.** Accessibility is the ease of access or effort needed for customers to acquire statistical data, products, or services. The Census Bureau conducts usability tests to ensure that its statistical products are accessible and understandable to its data users.

**The Census Bureau strives for ongoing improvements to meet our customers' expectations for ease of access, quick turnaround times, simple interface mechanisms, and**

**comparability among different data sources.** We also continually enhance the quality of our products and services through greater functionality in data collection instruments as we migrate to e-commerce and computer-assisted technologies.

## Objectivity

Objectivity involves a focus on ensuring that information is accurate, reliable and unbiased and that information products are presented in an accurate, clear, complete and unbiased manner. Objectivity is achieved by using reliable data sources and sound analytical techniques and by using highly qualified people to prepare data products that are carefully reviewed.

In the area of statistical information, objectivity also requires acknowledging that errors in statistical estimates are unavoidable. These areas generally fall under the categories of "sampling" and "nonsampling" errors. Sampling errors result when estimates are based on a sample and not a complete canvass of the population of interest (as in a census). The Census Bureau provides information quantifying what is known about the magnitude of these errors, such as variances or coefficients of variation to quantify the magnitude of sampling errors. Though quantifying nonsampling errors is more difficult, the Census Bureau provides what information it can on their magnitude.

The Census Bureau's commitment to quality and professional standards of practice includes: the use of modern statistical theory and practice in all technical work; the development of strong staff expertise in the disciplines relevant to our mission; the implementation of ongoing quality assurance programs to improve data validity and reliability, including improving the processes of compiling, editing, and analyzing data; and the development of a strong and continuing relationship with appropriate professional organizations in the fields of statistics and relevant subject-matter areas.

- **Use of Reliable Data Sources**

**The Census Bureau bases its information products on reliable, accurate data that have been validated.** The Census Bureau assumes responsibility for determining sources of data, measurement methods, and methods of data collection and processing for its censuses and surveys while minimizing respondent burden. This encompasses the development and determination of survey requirements and objectives, precision desired, geographic scope, collection mode and respondent, the sampling frame, sample design, estimation specifications, variance estimation specifications, and other quality measurement specifications.

**The Census Bureau builds measurement of quality, process**

**control, and performance into its data collection processes, thereby making evident the quality and objectivity of its statistics.** The secure handling of collected data will be assured by appropriate means throughout the entire data collection process to preserve confidentiality and privacy.

**The Census Bureau comprehensively documents all components of the data collection process to assure the consistency of our processes.**

- **Use of Sound Analytic Techniques**

**The Census Bureau uses sound analytical techniques to ensure objectivity in our statistical information products.** The Census Bureau assumes responsibility for determining and employing appropriate methods of analysis. We evaluate the techniques used to analyze data, continually searching for more effective, accurate, and reliable analysis tools. We evaluate and report on the quality of our analyses.

**The Census Bureau performs appropriate statistical tests, addressing the characteristics of the sample design in official products, and documents measures of sampling error.**

Preliminary quality checking and exploratory data analysis techniques are utilized to identify, where possible, instances of nonsampling error, including missing data, measurement error, processing error, and specification error. Additional quality checks are used to prevent errors in the analysis, including the data used for the analysis; the computations; and the text, tables, and figures used to report the analysis results.

- **Review Required for the Release of Data**

**All documents released by the Census Bureau undergo an extensive review that encompasses the content, statistical and survey methodology, and policy implications of the document.**

The review ensures that the data and text of the document meet Census Bureau standards for quality. If a potential data product is determined by the Census Bureau as unfit for use because it does not meet Census Bureau requirements for quality, the Census Bureau reserves the right to withhold the data product from release.

- **Informing Users of Data Quality and Methodology**

**The Census Bureau informs users of the concepts and methodologies used in collecting and processing the data, the quality of the data it produces, and other features of the data that may affect their use or interpretation.** The availability of sound methodological practices and the use of those methodologies are critical in ensuring the quality of the statistics. By

providing information on methodology and concepts to data users, the Census Bureau will enable users to make judgments and verify that the data they are using are similar in conceptual framework and definitions to the data they need to complete their work. It also allows users to more accurately assess the errors which restrict their use of the data. Specifically:

**Statistical products are accompanied by descriptions of the methods and procedures used and of the data quality.**

**The documentation provided to users conveys useful information on data quality, and engenders an awareness of quality as an issue in the proper use of the data.**

**The Census Bureau makes available to users indicators of the quality of the data it disseminates and descriptions of the underlying concepts, definitions, and methods.**

**The information on methodology provided permits the user to determine whether the data adequately approximate what they wish to measure, and whether the estimates they wish to use were produced with tolerances that are acceptable for their intended purpose.**

**The level of information provided in documentation on data quality or methodology depends on the type of data collection, data sources, and analysis; confidentiality protection required by statute; the medium of dissemination; the range and impact of uses of the data; and the total budget of the statistical program.**

- **Policy for correcting errors**

In accordance with the OMB guidelines, the Census Bureau has established mechanisms providing the public with the opportunity to seek correction of information disseminated by the organization that does not comply with our information quality guidelines. **Corrective actions will vary. Possibilities include immediate correction or replacement of information on the Census Bureau website (<http://www.census.gov>), revision of subsequent issues of recurring products, and issuance of errata for printed reports and other data products.** Written or electronic requests for correction communicated to the Census Bureau should specifically identify the information or procedures of concern, explain any alleged errors indicating why the information is not in compliance with the information quality guidelines, indicate any potential adverse impact, and provide a return address for our response. If we agree that an error was made, we will determine if the data will be corrected. These guidelines are not intended to imply any rights of individuals to request amendment of their own records beyond

those permitted by the Privacy Act of 1974 or other organization specific laws. [Click here to access the complete correction request procedure.](#)

**Integrity**                      **The Census Bureau follows the integrity guidelines determined by the Department of Commerce.**

### **Transparency and Reproducibility**

**The Census Bureau, through long-standing practice, makes our statistical information as transparent as possible.** Census Bureau quality guidelines require that our statistical products be accompanied by descriptions of the methods and procedures used and of the data quality. The Census Bureau makes available to users indicators of the quality of the data it disseminates and descriptions of the underlying concepts, definitions, and methods. The information on methodology is provided to permit the user to determine whether the data adequately approximates what they wish to measure, and whether the estimates they wish to use were produced with tolerances accepted for their intended purpose. While the Census Bureau utilizes internal peer review to ensure quality in content and subject matter as well as in the application of statistical methodology, and external peer review in content development for many of our programs, and for the review of results in our most highly critical activities, it fully meets [OMB section 515](#) requirements of objectivity through its use of full, accurate, transparent documentation and the disclosure of error sources affecting data quality.

Data released by the Census Bureau can be reproduced following prescribed methodology. Reproducibility means that there is the capability to use the documented methods on the same data set to achieve a consistent result. The documentation provided by the Census Bureau allows results to be repeated. However, data released by the Census Bureau generally are not directly reproducible by the public because the underlying data sets used to produce them are confidential. In such cases, our documented methods can be reviewed by users in lieu of an actual recreation of the results. In addition, some results may not be easily reproduced by third parties due to the complexity and detail of the methods and data. In these cases, greater emphasis is placed on periodic review by outside panels of technical experts, and we apply especially rigorous robustness checks.

Some statistical information is not available to the public because of its sensitive and proprietary nature, or because it is unfit for use. For example, while the original and supporting data the Census Bureau collects and develops to generate its statistical information products are covered by the same quality guidelines as the information it disseminates, the original and supporting data are proprietary and confidential. Additionally, if a potential data product is determined by the Census Bureau as unfit for use because it does not meet Census Bureau requirements for quality, the Census Bureau reserves the right to withhold the data product from release. The

determination that statistical information is unfit for use depends on the intended uses and on the data's fundamental characteristics of quality, as well as on the expectations of users for what is acceptable for these characteristics of quality. The range of quality characteristics underlying fitness for use includes relevance, accuracy, timeliness, accessibility, interpretability, and coherence.

**Finally, we also achieve transparency through the wide dissemination of our information.** Many reports and other data products are available both as printed and electronic documents. They are announced on the Census Bureau web site and most electronic versions can be accessed and downloaded directly from the site. The Census Bureau is committed to making every document on its internet server accessible to all. Currently, we are reviewing our site and making modifications to those pages which are not in compliance with the Americans with Disabilities Acts.

The Census Bureau historically has utilized high quality principles in each component of its statistical activities. These are shown in the following section. However, the specific guidelines set forth herein in response to OMB section 515 information guidelines are applicable as of October 1, 2002.

### Performance Principles for Census Bureau Activities

- [The development of concepts and methods;](#)
- [The planning and design of surveys and other means of collecting data;](#)
  - [The collection of data;](#)
  - [The processing and editing of data;](#)
  - [The analysis of data;](#)
- [The production of estimates or projections;](#)
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### [Procedure to Correct Census Bureau Information](#)

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