

Describing the Sources and Accuracy of Tabulations and Estimates

Version 1.4

Issued: 09 Mar 06

Census Bureau Standard

Authored by:

Jay Keller

Special Assistant to the Associate Director
for Methodology and Standards

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

Helping You Make Informed Decisions



Document Management & Control ¹

Version	Issue Date	Approval	Description
1.0	23 Mar 01	Associate Directors	Initial Release
1.1	24 Sep 02	Associate Directors	Reissue
1.2	14 Jan 05	Configuration Mgr.	Reformatted to comply with Census Bureau Identity Standard and Quality Program Document Management Plan
1.3	04 Apr 05	M&S Council	<ol style="list-style-type: none">1. Re-title standard2. Revise introduction to reference other dissemination standards3. Change “These standards apply” to “This standard applies” in the scope statement4. Clarify responsibilities for program areas and M&S Council
1.4	09 Mar 06	Configuration Mgr.	Inserted hyperlinks for supporting documents.

¹ **The most current version of this document is maintained on the Census Bureau Intranet and may be accessed from the Quality Management Repository.**

Census Bureau Standard: Describing the Sources and Accuracy of Tabulations and Estimates

Introduction

The Census Bureau Quality Standards are survey or statistical methodology procedures for all U.S. Census Bureau program areas. The Methodology and Standards Council sets these standards, with concurrence of the Associate Directors of the affected areas, for Census Bureau surveys and censuses. This responsibility encompasses setting relevant standards for Census Bureau data products.

The Census Bureau has issued four standards governing the dissemination of data products.

1. Review and Approval of Census Bureau Documents and Presentations;
2. Dissemination of Census and Survey Data Products;
3. Minimal Information to Accompany Any Report of Survey or Census Data; and
4. Describing the Sources and Accuracy of Tabulations and Estimates (this standard).

All four standards work together to ensure that the information the Census Bureau publishes is accurate and reliable, and to inform our customers of the quality of that information. The first two standards provide the foundation of these requirements and the last two provide more detail on specific aspects of data dissemination.

Each year the Census Bureau publishes a vast number of estimates on many subjects. It is the Census Bureau's responsibility to inform our data users of the sources of data provided in tabulations and estimates, and to provide users with information about the accuracy of those tabulations and estimates. The Census Bureau Standard: Describing the Sources and Accuracy of Tabulations and Estimates (this standard) meets this responsibility.

This standard establishes a three tiered approach for informing data users of the statistical reliability of data as part of the release of tabular survey and census data, and of model-based estimates, through all electronic and paper formats.

Scope

This standard applies to all tabulated data and model-based estimates disseminated by the Census Bureau, however collected, derived, or assembled, and irrespective of the medium of dissemination or the source of funding.

Standard

The approach consists of three standard statements that provide increasingly more detail about the statistical quality of the data and its appropriate uses. Divisions may modify the statements to meet the needs of individual programs but the standard language should be used to the extent possible, because it has been tested to ensure that users understand it. The components of the approach are described below.

1. **Headnote for all Tables.** Each table contains a source note (labeled SOURCE). This note is positioned at the top of multi-page tables, and at the top or bottom of single-page tables. The note does not typically exceed two printed lines. The first sentence of the note provides a description of the data in the table — sometimes referred to as the source type. The second sentence provides the location of relevant information on confidentiality protection, sampling error, nonsampling error, model error, and definitions. For electronic tables, the location source has a hyperlink. Examples of the Headnote are provided in Supporting Document A.
2. **Location Source Hyperlink (Electronic) or Intermediate Page (Paper) Statement.** The reader is referred to a statement that has the six components listed below. Specific examples are provided in Supporting Document B. Bracketed information in the italicized statements below indicate alternate wording for different programs.

- The source-type for the data used in the tabulations or to develop the model-based estimates (sample, census, administrative records, etc.);
- Statement on disclosure procedures where appropriate for the census or survey tabulations:

To maintain confidentiality, the Census Bureau [applies statistical procedures that introduce some uncertainty into data for geographic areas with small population groups/suppresses data to protect the identity of any business or individual.]

Statement on disclosure procedures where appropriate for the model-based estimates:

To maintain confidentiality, the Census Bureau uses procedures to assure that the estimates and related information that are released cannot be used to disclose individual data or violate other confidentiality restrictions applicable to the source data.

- Statement on sampling and nonsampling error for tabulations:

The survey [census] results in this table contain sampling error and nonsampling error [or contain nonsampling error but do not contain sampling error.]

Statement on model error, sampling error, and nonsampling error for model-based estimates:

The estimates contain error stemming from model error, sampling error, and nonsampling error. Standard errors are provided to indicate the quality of the estimates and may be used to produce confidence intervals. [or: Confidence intervals are provided to indicate the quality of the estimates.] Subject to the validity of the underlying model assumptions, these reflect uncertainty due to the effects of model error and sampling error, but do not account for the effects of nonsampling error.

- Statement on uses of data extrapolated from tables:

Data users who create their own estimates using data from [American FactFinder/ Ferret/Census Bureau] tables should cite the Census Bureau as the source of the original data only.

- Statement and location of other definitions of potential interest:

See also [definitions of subject characteristics and geographic definitions/explanation of terms and geographic definitions].

- Location of full technical documentation for tabulations:

For the full technical documentation [for the data set, which is the source of data in this table], see [www location/ page in documentation].

Location of full technical documentation for model-based estimates:

For the full technical documentation of the estimates see [www location/ page in documentation]. For technical documentation of the [survey, census, or other, e.g., administrative records] source data, see [www location/ page in documentation].

3. **Technical Documentation.** This component consists of the full technical documentation for the program. It should specifically include the statements on nonsampling error, sampling error, confidentiality, Title 13 United States Code, disclosure limitation, and the statements on suppression, data swapping, and protection of microdata files as relevant that are provided in Supporting Document C. An attempt was made to develop statements that addressed the methodology of all program areas. If the language in the statement does not address the specific needs of an individual program, modifications may be made. But the standard language should be used to the extent possible because it has been cognitively tested to ensure that users understand it.

Responsibilities

Program areas will be responsible for the following:

- preparing the appropriate information regarding the sources and accuracy of the data tabulations and estimates released by the program area, based on these standards;
- providing this information when tabulations and estimates are made available to the public or to customers.

The Methodology and Standards Council will be responsible for the following:

- initiating periodic evaluations and reviews of statistical reliability statements, and updates to the standards, as necessary;
- providing guidance to program areas in the development and usage of statistical reliability statements.

Implementation

This standard is ready for implementation immediately in the *American FactFinder* and in the next round of estimates for the Small Area Income and Poverty Estimates (SAIPE) program. Other electronic and paper census and survey data dissemination programs should incorporate this standard into their tabular products by the end of the calendar year. New programs for data tabulation or model-based estimates should incorporate this standard into the release of their first set of estimates. Specific situations where this three-tiered approach is not viable for the statistical product or the implementation cannot occur according to the above schedule should be brought to the attention of the Methodology and Standards Council so that a reasonable alternative can be developed.

Inquiries

Inquiries relating to the interpretation of this standard should be addressed to the Census Bureau Methodology and Standards Council.

Supporting Documents:

- A [Examples of Headnotes for Tables](#)
- B [Examples of Location Source Hyperlink \(Electronic\) or Intermediate Page \(Paper\) Statement](#)
- C [Technical Documentation Statements](#)

Recommended by Census Bureau Methodology and Standards Council:

Signed Cynthia Z.F. Clark, September 24, 2002

Cynthia Z.F. Clark
Chair, Census Bureau Methodology and Standards Council
Associate Director for Methodology and Standards

Signed Robert N. Tinari, September 24, 2002

Robert N. Tinari
Chief, Computer Assisted Survey Research Office

Signed David Whitford, September 24, 2002

David C. Whitford
Acting Chief, Decennial Statistical Studies Division

Signed Alan R. Tupek, September 24, 2002

Alan R. Tupek
Chief, Demographic Statistical Methods Division

Signed Howard Hogan, September 24, 2002

Howard Hogan
Chief, Economic Statistical Methods and Programming Division

Signed Ruth Ann Killion, September 24, 2002

Ruth Ann Killion
Chief, Planning, Research, and Evaluation Division

Signed Tommy Wright, September 24, 2002

Tommy Wright
Chief, Statistical Research Division

Concurrence:

Signed Preston Jay Waite, September 24, 2002

Preston Jay Waite
Associate Director for Decennial Programs

Signed Nancy M. Gordon, September 24, 2002

Nancy M. Gordon
Associate Director for Demographic Programs

Signed Frederick T. Knickerbocker, September 24, 2002

Frederick T. Knickerbocker
Associate Director for Economic Programs

Signed Marvin D. Raines, September 24, 2002

Marvin D. Raines
Associate Director for Field Operations

Signed Cynthia Z.F. Clark, September 24, 2002

Cynthia Z.F. Clark
Associate Director for Methodology and Standards