

2010 Decennial Census
Local Update of Census Addresses (LUCA) Program
User Guide for State Governments

Issued August 2007

Option 3-Non-Title 13 Local Address List Submission



U S C E N S U S B U R E A U
Helping You Make Informed Decisions

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

United States
Census
2010

TABLE OF CONTENTS

Chapter 1	
Introduction to the 2010 Decennial Census Local Update of Census Addresses (LUCA) Program	1
The 2010 Decennial Census Local Update of Census Addresses (LUCA) Program	1
Background	2
The Census Address List Improvement Act	2
The Census Bureau’s Master Address File (MAF)	2
The Topologically Integrated Geographic Encoding and Referencing (TIGER®) Database	2
LUCA Program Responsibilities	3
Census Bureau’s LUCA Program Responsibilities	3
Participant’s LUCA Program Responsibilities	3
Training and Technical Support	4
Schedule	4
Respondent Burden	5
Chapter 2	
Before You Begin Your Review	6
Introduction	6
What is a Housing Unit?	6
What are Group Quarters?	7
Unacceptable Types of Housing Units and Group Quarters	7
Census Bureau Addresses	8
Residential and Nonresidential Addresses	8
Address Formats	8
City-Style Address Format	8
Noncity-Style Address Format	8
Census Tract	9
Census Block	9
What is Geocoding?	10
Strategies for Conducting the LUCA Program Review	10
Address Sources	11
Chapter 3	
The LUCA Program’s Computer-Readable Address Count List	12
Introduction	12
The Address Count List Files	12
Locating the Name of a County or Count Equivalent Using the County Code	13
Software Requirements	13
Importing the Address Count List Files	14
The File Format	14
Example – Address Count List File Record Layout	16
Example – Pipe-delimited Address Count List File	17

Chapter 4	
The Census Bureau’s Predefined Computer-Readable Address List File Format	18
The Predefined Computer-Readable Address List File Format.....	18
The Address List Template Record Layout File.....	19
Chapter 5	
The Census Bureau Shapefiles	22
Introduction	22
Shapefiles	22
Submitting Shapefile Feature Information.....	22
The Census Bureau’s Shapefile Coordinate System and Projection Information	23
General File Setup Guidelines	23
Changing Our Coordinate System to Match Yours	23
Feature Information	24
Updating the Feature Shapefile	24
Edges Layer Data Dictionary	24
Census Feature Classification MTFCC to CFCC Crosswalk	26
Change Type Codes for Feature Corrections	27
Examples	28
1. Adding a Feature to the Edges Layer	28
2. Correcting a Feature Name.....	28
3. Procedure for changing the MTFCC of an existing feature	28
4. Deleting a feature.....	28
5. Moving a street.....	29
Metadata	31
Metadata Requirements	31
Digital File Submission.....	32
Chapter 6	
Submitting Your LUCA Program Updates	33
Submitting LUCA Program Updates	33
Preparing the Shapefiles for Submission.....	33
Shipping Your LUCA Materials	34
APPENDICES	
Appendix A	
Physical Location Description and Street Type Abbreviation Examples	35
Appendix B	
Unit Designation Abbreviation Examples	36
Appendix C	
Inventory Form	37
Glossary	38
Index	44

TABLE OF FIGURES

Figure 3.1: Address Count List File Record Layout	16
Figure 3.2: Address Count List File “Total Row” Layout	16
Figure 3.3: Pipe-delimited Address Count List File.....	17
Figure 5.1: Edges Layer Data Dictionary	24
Figure 5.2: Census Feature Classification MTFCC to CFCC Crosswalk	26
Figure 5.3: Change Type Codes for Feature Corrections.....	27
Figure 5.4: Example Attribute Table Updates	29
Figure 5.5: Digital Road Correction Example	30

CHAPTER 1 INTRODUCTION TO THE 2010 DECENNIAL CENSUS LOCAL UPDATE OF CENSUS ADDRESSES (LUCA) PROGRAM

The 2010 Decennial Census Local Update of Census Addresses (LUCA) Program
Background

The Census Address List Improvement Act

The Census Bureau's Master Address File (MAF)

The Topologically Integrated Geographic Encoding and Referencing (TIGER[®])
Database

LUCA Program Responsibilities

Census Bureau's LUCA Responsibilities

Participant's LUCA Responsibilities

Training and Technical Support

Schedule

Respondent Burden

The 2010 Decennial Census Local Update of Census Addresses (LUCA) Program

The Local Update of Census Addresses (LUCA) Program is an integral part of the 2010 Census activities that utilizes the expertise of tribal, state, and local governments to improve the accuracy and completeness of the address list used to take the census.

The U.S. Census Bureau invited the Governor (Chief Executive/Highest Elected Official), of your state to participate in this program. Your state selected Option 3, Non-Title 13 Local Address List Submission. This option allows you to:

- Review the Census Bureau's address count list for your state. This list is for reference purposes only.
- Submit your state address list file of **city-style**¹ single unit or multiunit structure and **group quarters**² residential addresses in a predefined Census Bureau computer-readable format. The Census Bureau will only accept local address file (city-style addresses only) in the predefined format as explained in Chapter 4.
- Identify any additions, deletions, or corrections to roads, or other physical features by submitting an updated version of the digital map file (shapefile) provided by the Census Bureau.

¹ The term **city-style address** is defined as an address that consists of a house number and street or road name, for example, 201 Main Street. However, the address may or may not be used for the delivery of mail, and may include apartment numbers/designations or similar identifiers. *See Chapter 2 for a complete definition.*

² A **group quarters** is a place where people live or stay that is normally owned or managed by an entity or organization providing housing and/or services for the residents. *See Chapter 2 for a complete definition.*

Background

The Census Address List Improvement Act

The Census Address List Improvement Act of 1994 (Public Law 103-430) strengthened the Census Bureau's partnership capabilities with tribal, state, and local governments by expanding the methods the Census Bureau could use to exchange address information. Designed to improve the accuracy of the Census Bureau's address list, the Act authorized the Census Bureau to provide individual addresses to officials of tribal, state, and local governments who agreed to conditions of confidentiality. Census 2000 marked the first decennial census for which the Census Bureau could provide its address list for review to governments that signed the required confidentiality agreement.

The Census Bureau's Master Address File (MAF)

In preparation for Census 2000, the Census Bureau created the Master Address File (MAF) by merging the 1990 Address Control File³ with the latest version of the U.S. Postal Service's (USPS) Delivery Sequence File⁴ (DSF). The MAF is a nationwide database of all addresses used to support many of the Census Bureau's operations. Besides containing mailing addresses and ZIP Codes, an address record in the MAF also contains geographic information about the location of addresses. In areas where there are noncity-style addresses (e.g., rural route or post office box number), the address record may contain additional information such as a location description.

The Topologically Integrated Geographic Encoding and Referencing (TIGER[®]) Database

Address records in the MAF are linked to feature segments in the Topologically Integrated Geographic Encoding and Referencing (TIGER[®]) database. The TIGER[®] database includes the geographic coordinates and names of all streets, water features, and other linear features, and boundaries for all jurisdictions and statistical areas (census tracts⁵, census blocks⁶, etc.) used to tabulate decennial census data. The TIGER[®] database also includes address ranges⁷ along streets that have city-style addresses and the hierarchy of

³ The 1990 residential address list used to label questionnaires, control the mail response check-in operation, and determine the nonresponse follow-up workload.

⁴ A computerized file containing all delivery point addresses serviced by the U.S. Postal Service (USPS). The USPS updates the DSF continuously as its letter carriers identify addresses for new delivery points or changes in the status of existing addresses.

⁵ A **census tract** is a small, relatively permanent statistical division of a county or statistically equivalent entity, delineated for the purpose of presenting Census Bureau statistical data.

⁶ A **census block** is a geographic area bounded by visible features, such as streets, roads, streams, and railroad tracks, and invisible features, such as the boundaries of governmental units and other legal entities. Census blocks are the smallest area for which the Census Bureau collects and tabulates statistical information.

⁷ **Address ranges** are the lowest and highest address numbers used to identify structures along each side of a street segment that has city-style addresses. Usually one side of the street has even address numbers and the other side has odd address numbers.

census geographic area codes from the state level down to individual census blocks (www.census.gov/geo/www/geodiagram.html). By linking address records in the MAF to the TIGER[®] database, the Census Bureau is able to identify street segments along which an individual address exists and determine the geographic code that applies to that address.

The Census Bureau's Geography Division regularly updates the MAF/TIGER database from various sources. In addition to the USPS DSF, other sources of updates include current household surveys, special censuses, and local sources.

LUCA Program Responsibilities

Census Bureau's LUCA Program Responsibilities

The Census Bureau's LUCA program responsibilities include:

- Provide training to LUCA program participants.
- Provide the necessary materials to participants.
- Provide technical assistance.
- Process updates submitted by LUCA participants.
- Conduct a 100% Address Canvassing (field check) operation. The Census Bureau will visit each census block within your state during this operation to update our address list and validate your LUCA submissions.
- Provide feedback materials for your review.

Participant's LUCA Program Responsibilities

As a participant in the LUCA program, your responsibilities include:

- Select your LUCA state liaison and reviewers.
- Sign and return the Registration Form.
- Complete and return the Participation Option/GIS Preference/Coverage Selection Form.
- Ensure that everyone working on the LUCA program understands the procedures for participating in the program and Census Bureau terminology and concepts.
- Ensure the receipt of all required materials for the LUCA program review.
- Prepare a strategy to conduct the review of LUCA materials.
- Within 120 calendar days of receiving your LUCA materials, complete your address list review and return your updated materials to the Census Bureau.
- Review the Census Bureau's detailed feedback materials.

Training and Technical Support

Census Bureau staff will conduct LUCA training workshops beginning in August of 2007. These training workshops will provide you with hands-on experience in using the 2010 Decennial Census LUCA Program materials. In addition, computer-based training (CBT) is available on the LUCA Program CBT CD-ROM and the LUCA Web site at www.census.gov/geo/www/luca2010/luca.html.

Should you need additional information, please contact your Census Bureau Regional Office toll free at 1-866-511-LUCA (5822) or for technical assistance about computer applications including the MAF/TIGER Partnership Software (MTPS), please call the Help Desk toll free at 1-866-919- LUCA (5822).

Schedule

January–February 2007	LUCA advance notification letters and information materials were mailed to the Governor (Chief Executive/Highest Elected Official) and other contacts in your state government.
March–June 2007	LUCA Promotional Workshops were conducted.
August 2007	LUCA invitation letters and registration materials were mailed to the Governor (Chief Executive/Highest Elected Official) and a courtesy copy to other contacts in your state government.
August 2007–January 2008	Invited governments register for LUCA and the Census Bureau ships LUCA review materials to each participating government.
August 2007	LUCA Training Workshops begin.
September 2007–March 2008	LUCA Option 3 participants review the Census Bureau’s address count list and submit their local address list file to their Census Bureau’s Regional Office within 120 calendar days from the receipt of materials.
October 2007–October 2008	Census Bureau reviews participant’s LUCA submissions and updates the MAF/TIGER database.

November 2008–June 2009	Census Bureau prepares for and conducts an Address Canvassing Operation using GPS-equipped hand held computers.
August 2009–October 2009	Census Bureau provides feedback materials to participants showing how we processed each participant's LUCA submissions.
September 2009–December 2009	Participants review feedback materials and Option 1 and Option 2 participants have the opportunity to appeal the results to the LUCA Appeals Office.
September 2009–January 2010	LUCA Appeals Office reviews and adjudicates Option 1 and Option 2 appeals.

Respondent Burden

The Census Bureau estimates that it will take between 105 and 1,575 hours to complete the LUCA review depending on the number of addresses and rate of address growth and change. This includes the time needed to read the invitation materials and complete the registration forms, and upon receipt of the LUCA materials, to read the instructions, assemble and review the LUCA materials, and provide updates.

Please send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to:

Paperwork Project 0607-0795
4600 Silver Hill Road, Room 3K138
Washington, D.C. 20233

Or you may e-mail comments to <paperwork@census.gov>; use "Paperwork Project 0607-0795" as the subject. Please include a copy of your message addressed to <luca@geo.census.gov>.

Under the paperwork Reduction Act, the Census Bureau cannot ask you to respond to a collection of information unless it displays a currently valid Office of Management and Budget (OMB) control number. The OMB number is found in the upper right corner of each LUCA form.

CHAPTER 2 BEFORE YOU BEGIN YOUR REVIEW

Introduction
What is a Housing Unit?
What are Group Quarters?
Unacceptable Types of Housing Units and Group Quarters
Census Bureau Addresses
Census Tract
Census Block
What is Geocoding?
Strategies for Conducting the LUCA Program Review
State-Level Address Sources

Introduction

Chapter 2 explains some of the terms and concepts used by the Census Bureau and recommended strategies for your LUCA review. Refer to the *Glossary* or visit the Census Bureau's Web site at <www.census.gov> for additional terms and definitions.

What is a Housing Unit?

A single-family house, townhouse, mobile home, trailer, apartment, group of rooms, or a single room occupied as a separate living quarters or, if vacant, intended for occupancy as a separate living quarters. A separate living quarters is one in which one or more occupants (or intended occupants, if vacant) live separate from any other individual(s) in the building and have direct access to the living quarters without going through another living quarters, such as from outside the building or through a common hall.

The following types of housing units are acceptable and should be included on your address list that you submit to the Census Bureau:

- Houses, including townhouses, condominiums, and apartments.
- Living quarters within an otherwise nonresidential structure such as an apartment within a church, school, or business.
- Mobile homes or trailers occupied as separate living quarters, or if vacant, intended for occupancy as separate living quarters.
- Any housing units under construction that will be habitable (closed to the elements with final roof, windows, and doors) on Census Day, April 1, 2010.

What are Group Quarters?

A place where people live or stay, in a group living arrangement, that is owned or managed by an entity or organization providing housing and/or services for the residents. This is not a typical household-type living arrangement. These services may include custodial or medical care as well as other types of assistance, and residency is commonly restricted to those receiving these services. People living in group quarters are usually not related to each other.

The following types of group quarters are acceptable and should be included on your address list that you submit to the Census Bureau:

- Correctional facilities.
- Juvenile facilities.
- Nursing homes.
- Hospitals with long-term care facilities.
- College or university dormitories, fraternities, sororities.
- Dormitories for workers.
- Religious group quarters.
- Shelters.
- Group homes.
- Any group quarters under construction that will be habitable (closed to the elements with final roof, windows, and doors) on Census Day, April 1, 2010.

Note: Housing units and group quarters can exist within the same structure.

Unacceptable Types of Housing Units and Group Quarters

Exclude the following unacceptable types of housing units and group quarters addresses from your address list:

- Condemned or scheduled for demolition.
- Being converted or remodeled for nonresidential purposes.
- Used solely for nonresidential storage.
- Used solely as offices or businesses in which no one is living.
- Used solely for ceremonial purposes.
- Any units under construction that will **not** be habitable (closed to the elements with final roof, windows, and doors) on Census Day, April 1, 2010.

Census Bureau Addresses

Residential and Nonresidential Addresses

The Census Bureau divides all addresses in two use types, residential and nonresidential. Residential addresses are addresses of housing units and/or group quarters where one or more people could live. Nonresidential addresses are addresses of a structure or unit within a structure that do not serve as a residence, such as commercial establishments, schools, government offices, and churches.

Some structures can contain both residential and nonresidential units, even though they have a single address such as an apartment over a store or a home with an office.

Address Formats

City-Style Address Format

The Census Bureau refers to housing units and group quarters addresses that have a house number and street name address, for example, 212 Elm Street or 137 Clark Ct., Apt. 316, as city-style addresses. In some instances, the house number may also include an alpha character such as 35A or W9254. These addresses are used for mailing or to provide location for emergency services, such as police, fire, and rescue (E-911 addresses).

City-style addresses for housing units in multiunit structures, such as apartment buildings, contain a unit designator, for example, Apt 101 or Suite D or a location designator such as “rear” or “basement.” (*See Appendix B, Unit Designation Abbreviations.*) The Census Bureau and the U.S. Postal Service treat these unit designators as part of the housing unit address, and they are included in each affected census address record.

Noncity-Style Address Format

The Census Bureau classifies addresses that do not include a house number and/or a street name as noncity-style addresses. Noncity-style addresses also may **not include a complete** house number and street name address. The majority of noncity-style addresses are located in the more sparsely settled areas of the United States; however, they may exist in small or medium sized towns as well. Frequently used noncity-style mailing addresses include:

- General delivery.
- Rural route and box number.
- Highway contract route and box number.
- Post Office box only delivery.

Noncity-style addresses often do not follow any numeric sequence, and may not be associated with the name of the street or highway on which they are located. For this reason, the Census Bureau uses different methods to compile the list of addresses for inclusion into the address list, such as location descriptions (BRICK HSE w/ATTACHED GARAGE ON RIGHT), structure points (geographic coordinates), and census geographic codes (**state code, county code, census tract number, census block number**).

Census Tract

Census tracts are small, relatively permanent statistical subdivisions of a county or statistically equivalent entity, delineated for presenting Census Bureau statistical data.

The proposed criteria for census tracts for the 2010 Census is that they contain a minimum of 1,200 people with an optimal population of 4,000.

Census tract boundaries are delineated with the intention of being stable over many decades, so they generally follow relatively permanent visible features. However, they may follow governmental unit boundaries and other non-visible features in some instances. Census tract boundaries never cross state or county (or statistically equivalent entity) boundaries.

Each census tract is uniquely numbered within a county and contains numerous census blocks. Census tract numbers contain up to a 4-digit number followed by a decimal point and a 2-digit number for suffixed tracts, e.g., 1234.01. For census tracts without a suffix, the number will contain a period with zero fill, e.g., 4567.00. Leading zeros are not shown on Census Bureau materials.

Note: *When using the Census Bureau shapefiles to geocode an address to a Census Tract number, use the Tractlabel attribute field on the curtracts (current tracts) shapefile.*

Census Block

A census block is an area bounded by visible features such as streets, roads, streams, and railroad tracks and non-visible features such as the boundaries of governmental units and other legal entities. A block is the smallest geographic area for which the Census Bureau collects and tabulates statistical data.

Census blocks may look like a city block or may be large and irregularly shaped, depending upon features. The boundary of a state or a county is always a block boundary.

Census blocks are numbered within census tracts and are unique to the census tract to which they belong. Census block numbers contain a 4-digit number,

and may include a single alpha character suffix, reflecting a boundary change or added features (e.g. 3001A and 3001B).

Note: The 2010 Decennial Census LUCA Program addresses are coded to **current** census block/geography.

What is Geocoding?

In order to process your address submissions, the Census Bureau **requires** the inclusion of **census geographic code information**. This link to census geography is referred to as geocoding. Geocoding places an individual address in its correct geographic location, which includes the correct **state, county, census tract, and census block** codes.

Because the Census Bureau counts people where they live, census geographic code information or geocodes support the systematic collection of data that allows Census enumerators to locate an address. They are also important in allocating data from questionnaire responses to the correct location. You **must include census geographic code information** for the Census Bureau to process your address submissions. The Census Bureau will not accept addresses without census geographic codes (geocodes) including the **state, county, census tract, and census block** codes.

Note: *When using the Census Bureau shapefiles to geocode an address to a Census Tract number, use the Tractlabel attribute field on the curtracts (current tracts) shapefile.*

You can find these census geographic codes on your LUCA materials.

Strategies for Conducting the LUCA Program Review

You must decide for yourself how to conduct the LUCA program review. Consider your available time, the information you have readily available, and the staff and computer resources you have. If resources are limited, the Census Bureau recommends focusing on areas where addresses are more likely to be missed or incorrect. For example:

- Areas of new housing construction.
- E-911 address conversion areas.
- Areas that have changed from single-family homes to multifamily homes and vice versa.
- Warehouses that have been converted to residential lofts.
- New mobile home parks or new scattered mobile homes.
- Apartment buildings with irregular or missing numbering schemes for the individual units.
- Annexed land.
- Areas along jurisdictional boundaries.

Address Sources

There are many possible sources of address information. Differences in your count of residential addresses and the Census Bureau's count of addresses are a good indication of where change is taking place and can help you identify addresses that you need to add to your address list. The following list provides suggestions for address source materials:

- New housing construction or building permits (include units that are under construction only if final roof, doors, and windows will be in place on Census Day, April 1, 2010).
- E-911 address files.
- Housing occupancy permits.
- Planning or zoning records.
- Local utility records.
- Drivers' license files.
- Annexation records.
- Assessment or taxation files.
- Voter registration files.
- School enrollment records.

CHAPTER 3 THE LUCA PROGRAM'S COMPUTER-READABLE ADDRESS COUNT LIST

Introduction
Accessing the Address Count List File
Software Requirements
The Address Count List Files
The File Formats

Introduction

The Census Bureau's address count list file your state selected to review are included on your CD-ROM. This chapter discusses:

- File name and format.
- Software requirements.
- How to open the file.

The Address Count List Files

The **address count list (ACL)** file contains the residential address counts for each census block within a county or county-equivalent your state selected to review. The state level file is named, **STxx.exe**.

Where,

“**ST**” = 2 character, alpha entity type, “State”

and

“**xx**” = 2-digit, numeric entity ID for your state.

For example, the 4-character state file name for New York is:

ST36.exe

Where,

“**ST**” is state and “**36**” is the state code for New York.

The file name for the address count list for each county or county equivalent is:

LUCA_ACL_STXXyyy.txt

Where:

“**ST**” = 2 character, alpha entity type, “State”

XX = 2-digit, numeric state code and,

yyy = 3-digit, numeric county FIPS code.

For example the address count list file name for Prince George's County, Maryland is:

LUCA_ACL_ST24033.txt,

Where, "ST" is State, "24" is the state code for Maryland, and "033" is the county code for Prince George's County.

Locating the Name of a County or Count Equivalent Using the County Code

Each filename contains a unique Federal Information Processing Standards (FIPs) code. To locate the name of the county or county equivalent associated with the county FIPS code visit, www.census.gov/geo/www/fips/fips65/index.html

- The Census Bureau recommends that you make a copy of each of the files and place them on the hard drive of a computer that is password protected. This will preserve the original files should you need to look at an original record or require another original copy of the file.
- To help keep your work organized, create a new directory or new folder on your hard drive. Copy the files from the CD-ROM into that directory or folder.

Software Requirements

The address count list files you receive are pipe-delimited (|) ASCII text files, meaning they can be viewed and read as letters and numbers with a text editor. All spreadsheet and database programs can read and understand these text files.

Many commercial spreadsheet and database programs can open the LUCA files. Use spreadsheet programs such as Microsoft Excel or Lotus 123 to open, view, and edit small files. For larger files, use a database program such as Corel Paradox, QuattroPro, Microsoft Access, or dBase⁸.

Note: Some computer programs that can open and view pipe-delimited text files **cannot** save an edited file in the correct format. Make sure your program has the ability to save or export a file with pipe-delimited fields. Call the Help Desk toll free at **1-866-919-5822** if you need assistance or more information.

⁸ The Census Bureau does not endorse or recommend the use of any specific software to view its files. The program names included here are only examples of programs that are able to read computer-readable files.

Importing the Address Count List Files

When you open the text files with your application, some spreadsheets and databases will prompt you to supply some information about the file. Be prepared to provide the application program with the following:

- Fields are **delimited**.
 - Delimiter is a **pipe symbol (|)**
 - Text qualifier is **none**.
 - All field types are **text**.
- It is **critical** that you define all field types as “**text**” including numeric fields such as census tract number, census block number, ZIP Code, and all others
 - Follow the record layout in Figure 3.1 to name and define the sizes of your fields.
 - If you need assistance or more information, call the Help Desk toll free at **1-866-919-5822**.

The File Format

The address count list contains the number of housing unit and group quarters addresses on the Census Bureau's address list for each census block within the county(s) or county equivalent(s) your state selected to review. Use the address count list to identify inconsistencies between the Census Bureau's housing unit and/or group quarters address counts and your state's housing unit and/or group quarters address counts for the area(s) under review.

Each block record in the address count list file contains nine (9) fields of information and has a maximum of 57 characters. The character length of each record may vary. The first row, or header row, of the address count list file displays the field names for each data column in the file. See Figure 3.4 for the address count list file record layout.

1. **Entity ID Code**—unique identification number (maximum character length is 12 characters) assigned by the Census Bureau to each entity. This field is prepopulated.
2. **State Code**—2-digit current state code state for your state. This field is prepopulated.
3. **County Code**—3-digit current county code for the county or county equivalent under review. This field is prepopulated.
4. **Census Tract Number**—Contains up to a 4-digit number followed by a decimal point and a 2-digit number for suffixed tracts, e.g., 1234.01. For census tracts without a suffix, the number will

contain a period with zero fill, e.g., 4567.00. This field is prepopulated.

5. **Census Block Number**—Contains a 4-digit number plus a 1-digit alpha character, if applicable, e.g. 3001a. This field is prepopulated.
6. **Census Count of Housing Unit Addresses**—Census Bureau's most recent count of housing unit addresses. This field is prepopulated.
7. **State Count of Housing Unit Addresses**—this field is blank.
8. **Census Count of Group Quarters Addresses**—Census Bureau's most recent count of group quarters addresses. This field is prepopulated.
9. **State Count of Group Quarters Addresses**—this field is blank.

Example – Address Count List File Record Layout

Figure 3.1: Address Count List File Record Layout

Maximum Character Length	Field Name	Description/Notes
12	Entity ID Code	Unique identification number assigned by the Census Bureau to each entity
2	State Code	2-digit State Code
3	County Code	3-digit County Code
7	Census Tract Number	Up to 4-digit Census Tract Number, plus 2-digit number suffix, if applicable, includes a period for suffixed tracts. If no suffix, includes period and zero fill
5	Census Block Number	4-digit Current Census Block Number, plus 1-digit alpha character suffix, if applicable
7	Census Count of Housing Unit Addresses	Census Bureau’s most recent count of housing unit addresses
7	State Count of Housing Unit Addresses	Blank field
7	Census Count of Group Quarters Addresses	Census Bureau’s most recent count of group quarters addresses
7	State Count of Group Quarters Addresses	Blank field

The last row records the total number of Census Blocks, Census Bureau Housing Unit Addresses, and Census Bureau Group Quarters Addresses on the address count list. See Figure 3.2 for the “Total Row” Layout.

Figure 3.2: Address Count List File “Total Row” Layout

Maximum Character Length	Field Name	Description/Notes
7	Census Tract Number	The word “Total” appears in this column
5	Census Block Number	Total number of Census Blocks on the Address Count List
7	Census Count of Housing Unit Addresses	Total number of Census Bureau Housing Unit Addresses on the Address Count List
7	State Count of Housing Unit Addresses	Blank
7	Census Count of Group Quarters Addresses	Total number of Census Bureau Group Quarters Addresses on the Address Count List
7	State Count of Group Quarters Addresses	Blank

Example – Pipe-delimited Address Count List File

Figure 3.3 is an example of how the information may appear in the address count list file before importing the file using your software program. This example is in the state of Idaho, state code 16, and county code 089. There are 765 housing unit addresses and three (3) group quarters addresses in Census Tract 6789.01, Census Block 5432.

ST16089|16|089|6789.01|5432|765| |3|

Figure 3.3: Pipe-delimited Address Count List File

Address Count Record	Field Name
ST16089	Entity ID Code
16	State Code
089	County Code
6789.01	Census Tract Number
5432	Census Block Number
765	Census Count of Housing Unit Addresses
Blank	State Count of Housing Unit Addresses
3	Census Count of Group Quarters Addresses
Blank	State Count of Group Quarters Addresses

CHAPTER 4 THE CENSUS BUREAU'S PREDEFINED COMPUTER-READABLE ADDRESS LIST FILE FORMAT

The Predefined Computer-Readable Address List File Format
The Address List Template Record Layout File

The Predefined Computer-Readable Address List File Format

You must submit your address file containing residential **city-style** addresses only, in the predefined format as shown in Figure 4.1. The Census Bureau will only accept and process address files submitted in this format. Noncity-style addresses **will not be accepted or processed**.

The predefined file format contains 17 fields of information with a maximum of 361 characters for each address record.

Figure 4.1: Census Bureau's Predefined File Format for Address List Submission

Field Number	Maximum Character Length	Field Name	Description/Notes
1	12	Entity ID Code	Unique number assigned by the Census Bureau to each entity
2	2	State Code	2-digit Current State Code
3	3	County Code	3-digit Current County Code
4	7	Census Tract Number	Up to 4-digit Census Tract Number, plus 2-digit number suffix, if applicable, includes a period for suffixed tracts. If no suffix, includes period and zero fill, e.g. 5432.00.
5	5	Census Block Number	4-digit Current Census Block Number, plus 1-digit alpha character suffix, if applicable
6	1	Group Quarters Flag	Display a 'Y' if the unit is a group quarters
7	35	House Number	Housing unit's or group quarters' assigned house number
8	3	Street Name Prefix Qualifier	e.g. EXT, ALT, BUS, OLD
9	2	Street Name Prefix Direction	e.g., N, W, SE
10	14	Street Name Prefix Type	e.g., HWY, RT, US
11	100	Street Name	Full street or road name
12	14	Street Name Suffix Type	e.g., ST, CT, AVE, DR
13	2	Street Name Suffix Direction	e.g., N,W, SE
14	3	Street Name Suffix Qualifier	e.g. EXT, ALT, BUS
15	100	Group Quarters Name	Name of group quarters (Dobbs Hall-University of Dobbs)
16	53	Apartment/Unit Number	Within structure descriptor or identifier, such as APT 5 or 1 st FL FRNT
17	5	City-style Mailing ZIP Code	5-digit ZIP Code for city-style mailing addresses

The Address List Template Record Layout File

An address list template record layout is included on your CD-ROM. If you choose, you may use this template to import your address file for submission. The name of this file is:

AddressListTemplate.txt

- Create a new directory or new folder on your hard drive. Copy the file from the CD-ROM into that directory or folder.
- When you open the text file with your application provide the application program with the following:
 - Fields are **delimited**.
 - Delimiter is **pipe**. (|)
 - Text qualifier is **none**.
 - All field types are **text**.
- Define all field types as “**text**.”
- Be sure that the required address information is in the appropriate field as listed below for each address record.

Note: All address records must contain census geographic codes including the **state code, county code, census tract number, and census block number**. The Census Bureau will not accept addresses without census geographic codes.

1. Entity ID Code

2. State Code

3. County Code

4. Census Tract Number

Note: When using the Census Bureau shapefiles to geocode an address to a Census Tract number use the *Tractlabel* attribute field on the *curtracts* (current tracts) shapefile.

5. Census Block Number

6. Group Quarters Flag, if applicable:

- a. Enter a “**Y**” in the **Group Quarters Flag** field for a group quarters address
- b. Add the name of the group quarters in the **Group Quarters Name** field

Note: If you enter a “**Y**” in the **Group Quarters Flag** field, you must provide a group quarters name

in the **Group Quarters Name** field. The Census Bureau will not process an identified group quarters address record without a group quarters name.

7. House Number

8. Street Name Prefix Qualifier

9. Street Name Prefix Direction

10. Street Name Prefix Type

11. Street Name

12. Street Name Suffix Type

13. Street Name Suffix Direction

14. Street Name Suffix Qualifier

15. Group Quarters Name, if applicable:

- Be sure that the **Group Quarters Flag** field displays a “Y.” The Census Bureau will not process an identified group quarters address record without a group quarters name.

16. Apartment/Unit Number, if applicable:

- If you have multiunit structures (apartments, condominiums, etc.) listed in your address file or need to add these addresses, use the following guidelines for identifying individual units:

- a. Enter the unit designation (e.g., APT 5, UNIT 103) in the **Apartment/Unit Number** field, if known.
- b. If the apartment/unit designators are unknown, but you know the number of units at the multiunit structure, enter “*#” in the **Apartment/Unit Number** field for each unit added.

The “*” character will alert the Census Bureau that the actual unit identifiers are unknown and that we need to obtain further information during our field check of the address. The “#” is the sequential number, i.e., 1,2,3,4, etc.

For example, the new multiunit structure located at 505 Wells Blvd, contains 20 units. You don't know the actual

individual unit numbers or designators but you know there are 20 units:

- i. Create 20 records with the correct census geographic codes (i.e., **state code, county code, census tract number, census block number**) and the street address, 505 Wells Blvd.
- ii. For each unit added at 505 Wells Blvd, enter in sequence, the appropriate “*#” in the **Apartment/Unit Number** field.

For example, for the first unit added at 505 Wells Blvd, enter “*1” in the **Apartment/Unit Number** field; for the second unit record added, enter “*2” in the **Apartment/Unit Number** field, and so on, until you get to the twentieth unit record, where you enter “*20” in the **Apartment/Unit Number** field.

17. City-style Mailing ZIP Code

- Save your address list file **for each county or county equivalent** as a pipe-delimited, ASCII text file. (*If you need further instruction on saving a pipe-delimited, ASCII text file, please call the Help Desk toll free at 1-866-919-5822.*)
- Name the file containing the address list **for each county or county equivalent** STXXyyy_LUAL.txt. (*where ST is state; XX is your state code, and; yyy is the county code*)

See Chapter 6 for instructions on submitting your address list file to the Census Bureau.

CHAPTER 5 THE CENSUS BUREAU SHAPEFILES

- Introduction
- Shapefiles
- Submitting Shapefile Feature Information
- Metadata
- Digital File Submission

Introduction

The Census Bureau provides you with shapefiles as a reference for locating and geocoding individual addresses, and for updating and correcting features.

Shapefiles

Shapefiles require the use of GIS software. The Census Bureau provides county-based shapefile layers in Environmental Systems Research Institute⁹ (ESRI) shapefile format. Participants that submit shapefiles with feature updates must follow Census Bureau requirements.

The shapefiles, created from the MAF/TIGER database, allow you to submit map feature updates electronically. All linear features in the MAF/TIGER database are contained in the edges shapefile. Use the edges shapefile to add, delete, or change linear feature attributes.

To geocode addresses to census blocks, a tabblock shapefile is included.

In addition to an edges shapefile, the Census Bureau provides shapefiles for legal boundaries. Do **not** edit the legal boundaries layer.

For more details on the contents of the shapefiles, view the readme.txt file that is included in the CD-ROM containing your shapefiles.

Submitting Shapefile Feature Information

In order to submit digital feature information, you must have a GIS capable of importing ESRI shapefiles, editing the features, and exporting layers back into ESRI shapefile format.

⁹ All shapefiles provided by the Census Bureau are in Environmental Systems Research Institute (ESRI) format. The use of brand names does not represent an endorsement of a company or its products by the U.S. Government. Due to the wide use of ESRI products by our partners in the GIS community, and ubiquitous use of the shapefile format as a medium for GIS data exchange, the Census Bureau provides data in shapefile format.

The Census Bureau's Shapefile Coordinate System and Projection Information

All shapefiles provided by the Census Bureau are in the following unprojected geographic-based coordinate system:

- GCS_NAD83
- Angular Unit: Degree (0.017453292519943299)
- Prime Meridian: Greenwich (0.000000000000000000)
- Datum: D_North_American_1983
- Spheroid: GRS_1980
- Semi-major Axis: 6378137.000000000000000000
- Semi-minor Axis: 6356752.314140356100000000
- Inverse Flattening: 298.257222101000020000

General File Setup Guidelines

Upon receipt of your shapefiles, follow the setup guidelines listed below before beginning actual updates:

- Open the CD and enclosed zip file to ensure it contains the shapefiles for your entity.
- Copy and decompress the shapefiles to a directory on your server or hard drive.
- Open the shapefile in a GIS.

Note: If you are using GIS software that does not contain a shapefile translator, please contact the Help Desk toll free at 1-866-919-5822 for further instructions.

Changing Our Coordinate System to Match Yours

Our files are in GCS_NAD83 format. Please feel free to project these files into your local coordinate system projection. Most GIS software packages contain projection wizards, or something similar, allowing the user to transform file coordinate systems and projections. For example, if your office uses ArcView to update files, please activate and utilize ArcView's 'Projection Utility Wizard' extension. If using ArcGIS, please use its "Projection Utilities" in ArcToolbox. MAF/TIGER extract shapefiles contain defined projection information in the *.PRJ file. Both ArcView and ArcGIS access the *.PRJ file for projection information; therefore, there is no need for you to define these parameters before changing the file coordinate system.

In addition, if your files are in a datum other than NAD83, you must geographically transform our files to match your datum. Most GIS software has tools for performing geographic transformations on files. If you transform the files to your local coordinate system, we request that you convert them back to the GCS_NAD83 format before submitting the file to the Census Bureau. If you encounter problems transforming our files, please contact the Help Desk toll free at 1-866-919-5822 for assistance.

Feature Information

If you have reviewed your features using our shapefiles and have determined that the Census Bureau needs to add, remove, or rename features in a given area, you may submit your modifications in a separate layer. To move or correct the shape of a feature, first delete the feature then add the correction.

Use the appropriate update code located in the coding scheme as shown in Figure 5.3 to identify the type of feature modification needed for submission.

If any issues arise with the shapefiles that you submit, your Census Bureau Regional Office will attempt to contact you to clarify the issue. If clarification is not made prior to our project deadline, the updates may not be incorporated into MAF/TIGER. Your updates are considered temporary until their existence is confirmed during our Address Canvassing Operation.

Updating the Feature Shapefile

Use the edges layer to provide all feature updates to the Census Bureau’s shapefile.

Edges Layer Data Dictionary

The data dictionary defines the attribute information for each feature contained in the edges layer. See Figure 5.1 for an example of the edges layer data dictionary.

Figure 5.1: Edges Layer Data Dictionary

Field	Length	Type	Description
TLID	10	Integer	TIGER/Line ID
MTFCC	5	String	Feature MTFCC
FIDELITY	1	Integer	Shape Fidelity Flag
FULLNAME	120	String	Feature name
CHNG_TYPE	4	String	Type of digital linear update

- **TLID** is the TIGER/Line[®] ID
- The MAF/TIGER Feature Class Code or **MTFCC** is used to identify the most noticeable characteristic of a feature.
 - The **MTFCC** is a five-character code; the first character is a letter describing the feature class. For example, streets and roads are identified as S1400.
 - The Census Feature Class Codes or CFCC were recently changed to the **MTFCC**. A crosswalk is on the following page as well as in the readme.txt file on your CD-ROM.
- If the **FIDELITY** flag contains a value of “1,” the Census Bureau was unable to maintain the boundary’s shape during the MAF/TIGER Accuracy Improvement Process (MTAIP).
 - The MTAIP project acquired geographic information system (GIS) files, aerial photography, and GPS data from various sources nationwide to update the TIGER[®] database.
 - One of the primary goals of the project was to develop a highly accurate geographic database of the United States. The Census Bureau focused on improving the accuracy of street feature coordinates to provide base information suitable for use with GPS-equipped hand held devices that would facilitate the gathering of accurate location and census information for all living quarters and workplaces.
 - To aid the Census Bureau in developing a highly accurate geographic database, please review all line segments (not just roads) in the Census Bureau’s edges layer for lines with a fidelity flag value of “1.”
- **FULLNAME** is the feature name.
- **CHNG_TYPE** is the type of digital linear update.

Figure 5.2: Census Feature Classification MTFCC to CFCC Crosswalk

Census Feature Classification MTFCC to CFCC Crosswalk**Road Features**

MTFCC	FEATURE NAME	CFCC
S1100	Interstate Highway or Primary Road with limited access	A11, A12, A13, A14, A15, A16, A17, A18, A19
S1200	Primary Road without limited access, US Highway, State Highway, or County Highway, Secondary and connecting roads	A21, A22, A23, A24, A25, A26, A27, A28, A29, A31, A32, A33, A34, A35, A36, A37, A38, A39
S1400	Local Neighborhood Road, Rural Road, City Street	A41, A42, A43, A44, A45, A46, A47, A48, A49, A61, A62
S1500	Vehicular Trail (4WD)	A51, A52, A53
S1630	Ramp	A63
S1640	Service Drive usually along a limited access highway	A64
S1710	Walkway/Pedestrian Trail	A70, A71
S1720	Stairway	A72
S1730	Alley	A73
S1740	Private Road for service vehicles (logging, oil fields, ranches, etc.)	A74
S1750	Private Driveway	N/A

Water Features

MTFCC	FEATURE NAME	CFCC
H3010	Stream/River	H10, H11, H12, H76, H77
H3013	Braided Stream	H13
H3020	Canal, Ditch or Aqueduct	H20, H21, H22

Railroad

MTFCC	FEATURE NAME	CFCC
R1011	Railroad Feature (Main, Spur, or Yard)	B11, B12, B13, B14, B15, B16, B19, B21, B22, B23, B29, B31, B32, B33, B39
R1051	Carline, Streetcar Track, Monorail, Other Mass Transit Rail	B51, C31
R1052	Cog Rail Line, Incline Rail Line, Tram	B52

Miscellaneous Features

MTFCC	FEATURE NAME	CFCC
P0001	Nonvisible Legal/Statistical Boundary	F00, F10, F11, F12, F13, F14, F15, F16, F17, F18, F19, F20, F21, F22, F23, F24, F25, F50, F52, F70, F71, F72, F73, F74, F80, F81, F82, F83, F84, F85, F86, F87, F88
L4010	Pipeline	C10
L4020	Power Transmission Line	C20
L4110	Fence Line	E10
L4121	Ridge Line	E21
L4031	Aerial Tramway/Ski Lift	N/A
K2451	Airport or Airfield	D51
L4140	Property/Parcel Line	F40, F41
L4165	Ferry Crossing	A65, B40

Change Type Codes for Feature Corrections

Each updated line to the edges layer must contain one of the change type codes (Add Line, Change Attribute, Delete Line) listed in the coding scheme in Figure 5.3. Record the change type code in the **CHNG_TYPE** field in the attribute table for each line.

Figure 5.3: Change Type Codes for Feature Corrections

Code	Description
AL	Add Line
CA	Change Attribute
DL	Delete Line

Each feature update must have a change type code in the change type field for the line.

- There are three change type codes:
 1. Add Lines
 - Code – **AL**
 - Used to add a new feature (Road, Railroad, Hydrography, etc.)
 2. Change Attribute
 - Change Name
 - Code – **CA**
 - Used to change the name of a feature
 - Provide the feature's new name in the **FULLNAME** field
 - Change Feature Class
 - Code – **CA**
 - Used to change the feature class code (e.g., a local road mistakenly coded as a highway).
 3. Delete Line
 - Code – **DL**
 - Used to delete a feature

The following are examples of change type codes for feature corrections.

Examples

1. Adding a Feature to the Edges Layer

Spring Street is a new street that needs to be added to the Census Bureau's shapefile.

- Add or copy the missing street or feature into the edges layer.

In the attribute table:

1. Leave the **TLID** and **FIDELITY** fields blank.
2. Enter the appropriate **MTFCC**. In this example, S1400.
3. Enter the feature name in the **FULLNAME** field (if any), in this case Spring Street.
4. Enter **AL** in the **CHNG_TYPE** field.

2. Correcting a Feature Name

Ryan Street is incorrectly identified as Bryan Street.

In the attribute table:

1. Edit the **FULLNAME** field, in this case correcting it from Bryan Street to Ryan Street.
2. Enter **CA** in the **CHNG_TYPE** field.

3. Procedure for changing the MTFCC of an existing feature

A local road was mistakenly coded as a highway.

In the attribute table:

1. Edit the **MTFCC** from S1200 to S1400.
2. Enter **CA** in the **CHNG_TYPE** field (i.e., a local road was mistakenly coded as a highway).

4. Deleting a feature

A section of Dunlap Street no longer exists. In addition, the entire length of Carlisle Street has been replaced by a city park.

In the attribute table:

1. Enter **DL** in the **CHNG_TYPE** field for the segment of Dunlap Street that no longer exists.
2. Enter **DL** in the **CHNG_TYPE** field for all of the segments for Carlisle Street which no longer exist.

5. Moving a street

The Census Bureau shapefile incorrectly shows the location of Winona Street.

Add Winona Street in the correct location in the edges layer.

In the attribute table:

1. Enter **DL** in the **CHNG_TYPE** field for the incorrect segment(s) of Winona Street to be deleted.
2. For the new street segment(s), leave the **TLID** and **FIDELITY** fields blank.
3. Enter the appropriate **MTFCC**.
4. Enter Winona Street in the **FULLNAME** field.
5. Enter **AL** in the **CHNG_TYPE** field.

To move or correct the shape of a feature, first delete the incorrectly placed or aligned feature and then add the correction.

Figure 5.4 displays the attribute table, based on the previous examples.

Figure 5.4: Example Attribute Table Updates

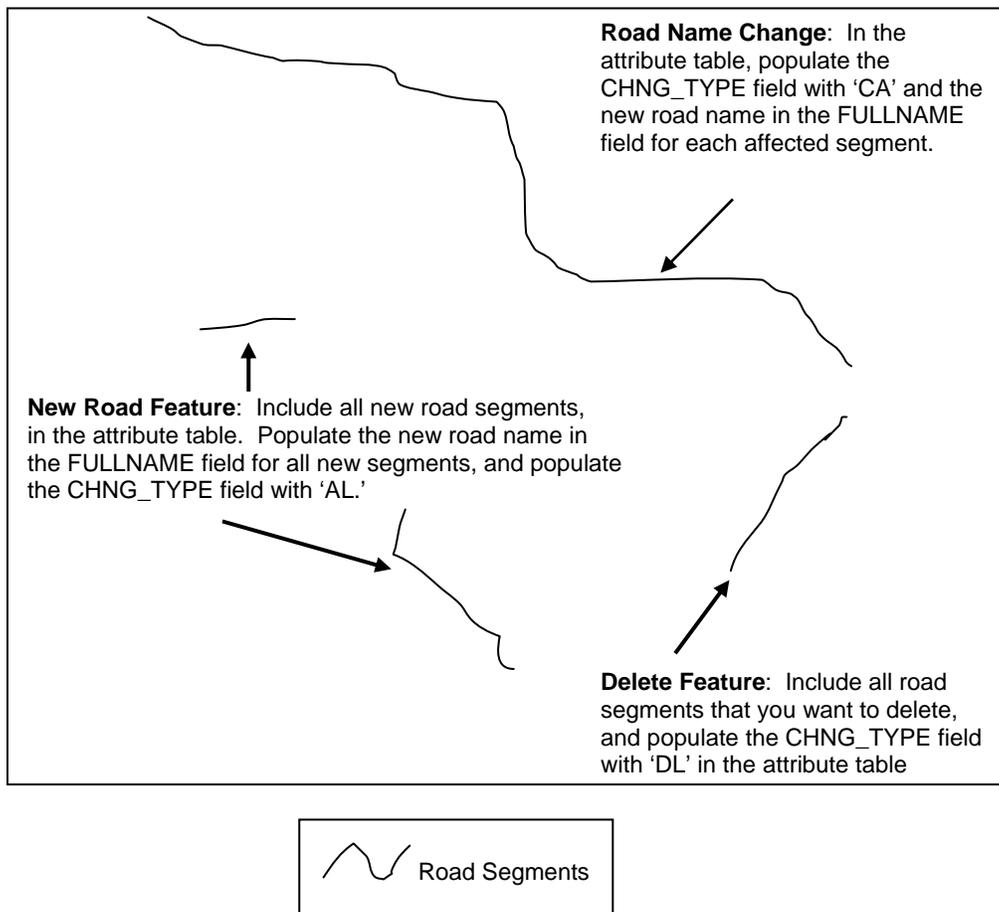
TLID	MTFCC	FIDELITY	FULLNAME	CHNG_TYPE
	S1400		Spring Street	AL
	S1400		Winona Street	AL
9999999995	S1400	0	Ryan Street	CA
9999999996	S1400	0	Dunlap Street	DL
9999999997	S1400	0	Carlisle Street	DL
9999999998	S1400	0	Carlisle Street	DL
9999999999	S1400	0	Winona Street	DL

Attribute table update examples:

- Spring Street added.
- Bryan Street corrected to Ryan Street.
- Segment of Dunlap Street deleted.
- Carlisle Street deleted.
- Winona Street moved.

Copy all features with values in the **CHNG_TYPE** field into a new feature update shapefile. The feature updates shapefile will resemble what is shown in Figure 5.5.

Figure 5.5: Digital Road Correction Example



Metadata

Metadata Requirements

Metadata that describe the data content, coordinate system/projection, author, source, and other characteristics of GIS files are critical for Census Bureau staff to efficiently and accurately process files. The Census Bureau requires that a metadata text file accompany every GIS file and layer submitted.

The Federal Geographic Data Committee's (FGDC) Content Standard for Digital Spatial Metadata provides a national standard that enables the data-sharing public to easily locate critical information about a file and ensure that no critical information is omitted inadvertently when creating metadata. For this reason, the Census Bureau requests that metadata be submitted using this standard. For information about the FGDC and its geospatial metadata standards, please visit <www.fgdc.gov/metadata>.

The Census Bureau requires that the following sections of the FGDC metadata form be completed:

- Citation (information about the originator, publication date, title edition, and other publications or information).
- Description (section that contains an abstract describing your data set).
- Time period of content (section that describes the vintage of the data).
- Spatial domain (information about bounding coordinates).
- Point of contact (general contact information).
- Data quality information (information about attribute accuracy).
- Spatial reference information (section on coordinate system/projection of the data set).
- Entity and attribute information (section that describes the contents of your table).

To help you fulfill the requirement of filling out and submitting metadata, the Census Bureau suggests visiting the United States Geological Survey (USGS) Web site at <www.usgs.gov>. This site contains useful information about FGDC compliant metadata, from which one can read about metadata frequently asked questions, view FGDC metadata examples, and connect to other FGDC related Web pages. The FGDC 's metadata URL is <www.fgdc.gov/metadata>.

Moreover, if you are using Arc/Info, the following link points to a useful Arc Macro Language (AML) tool that, when executed, completes most of the required sections of the metadata form automatically <www.marinemetadata.org/tools/refs/FGDCMeta>. (This AML is a product of the Illinois State Geological Survey.)

Note: ESRI's ArcCatalog also has an embedded program that uses the FGDC standard in its creation of geospatial metadata.

If you have questions regarding the metadata requirements, please contact the Help Desk toll free at 1-866-919-5822.

Digital File Submission

Use the following as a guide to ensure that you have included all the required layers for each county.

- Save the changes for each county in a separate feature update layer file. Name each file:

LUCA_<STXXyyy>_LN_changes.shp (*where XX is the state code and the yyy is the county code*)

The feature update layer must include:

- A value in its "CHNG_TYPE" field that indicates the type of change.
 - Only feature updates (do not include unmodified features).
- Include the appropriate metadata.

CHAPTER 6 SUBMITTING YOUR LUCA PROGRAM UPDATES

Submitting LUCA Program Updates
Shipping Your LUCA Materials

Submitting LUCA Program Updates

After completing your review and update of the LUCA materials, return the materials with updates and your address lists to the Census Bureau's Regional Office responsible for your state. Include the inventory form, *Appendix C*, with your returned materials.

- Save the address list file **for each county or county equivalent** as a pipe-delimited, ASCII text file. (*If you need further instruction on saving a pipe-delimited, ASCII text file, please call the Help Desk toll free at 1-866-919-5822.*)
- Name the file containing the address list **for each county or county equivalent** STXXyyy_LUAL.txt. (*where ST is state; XX is your state code, and; yyy is the county code.*)
- Make a copy of your submitted files to keep for your records and to use during the Feedback phase of the program.
- ZIP the files.
 - If you do not have ZIP software, Freebyte ZIP software is provided on your CD-ROM.
- Burn the files to a CD-ROM or DVD.

Note: *If you are submitting shapefiles, you may burn all of your files to one (1) CD-ROM or DVD. See the section, *Preparing the Shapefiles for Submission*.*
- Send the CD-ROM or DVD to your Census Bureau Regional Office as instructed in the section, *Shipping Your LUCA Materials*.
- You **cannot** submit files via e-mail or post the files to an FTP site.

Preparing the Shapefiles for Submission

Note: If you are using ArcGIS, when you copy files to be burned to a CD-ROM, be sure to use ArcCatalog. ArcCatalog will capture all required files such as .dbf, .shp, .shx, etc.

- Name the feature update layers for each county :
LUCA_<STxyyy>_LN_changes.shp (where *xx* is the state code and the *yyy* is the county code)
- Compress all updated materials—Shapefile and Metadata—into one ZIP formatted file called:
LUCA_2010_<STxx>_Return.ZIP (where *xx* is your state code)

Save a backup copy of your updated digital file for your records and to use during the Feedback phase of the program.

- Burn the file to a CD-ROM or DVD.
- Send the CD-ROM or DVD with updates to your Census Bureau Regional Office as instructed in the section, *Shipping Your LUCA Materials*.
- You **cannot** submit files via e-mail or post the files to an FTP site.

Note: *You may burn all of your files (shapefiles, address list, and address count list) to one (1) CD-ROM or DVD.*

Shipping Your LUCA Materials

- Double wrap all address materials.
- Address all envelopes, mailing boxes, mailing tubes, etc. to:
ATTN: GEOGRAPHY
U.S. Census Bureau
Address for your Census Bureau Regional Office
You can find a list of the Census Bureau's Regional Office addresses on the back cover.
- Use the prepaid, preprinted FedEx label provided to you, if FedEx delivery service is available in your area.
- Use shipping contractors that provide tracking services, such as U.S. Postal Service (USPS) certified or registered mail, FedEx, United Parcel Service (UPS), or similar service.

APPENDICES

Appendix A
Physical Location Description and Street Type Abbreviation Examples

Full Name	Abbreviations
Alternate Route	ALT
Avenue	AVE
Blue	BL
Boulevard	BLVD
Brown	BRN
Boarded Up	BU
Circle	CIR
County Highway	CO Hwy
County Road	CO Rd
Court	CT
Drive	DR
East	E
Four-Wheel Drive Trail	4WD
Freeway	FWY
Green	GR
General Delivery	GEN DEL
Hospital	HOSP
Highway Contract Route	HCR
House	HSE
Interstate	I
Intersection	INT
Lane	LN
North	N
Parkway	PKWY
Post Office Box	PO BOX
Road	RD
Route	RTE
Rural Route	RR
South	S
Star Route	ST RT
State Highway	ST HWY
State Road	ST RD
State Route	ST RTE
Street	ST
Thoroughfare	THFR
Township Highway	TWP HY
Township Road	TWP RD
West	W
White	WHT
Yellow	YLW
With	W/

Appendix B
Unit Designation Abbreviation Examples

Name	Abbreviation
Apartment	APT
Basement	BSMT
Bottom	BOTM
Downstairs	DOWN
Floor	FLR
Front	FRNT
Interior	INTE
Level	LVL
Lower	LOWR
Middle	MIDL
Mobile Home	MH
Number	#
Penthouse	PH
Room	RM
Right	RGHT
Space	SP
Studio	STUD
Suite	STE
Suites	STES
Trailer	TRLR
Upper	UPPR
Upstairs	UPS

**Appendix C
Inventory Form**

OMB No. 0607-0795

FORM D-1671 (6-12-2007)	U.S. DEPARTMENT OF COMMERCE Economics and Statistics Administration U.S. CENSUS BUREAU	ENTITY ID
INVENTORY FORM FOR THE RETURN/SUBMISSION OF LUCA PROGRAM MATERIALS LOCAL UPDATE OF CENSUS ADDRESSES (LUCA) PROGRAM 2010 Decennial Census		
Please use this form to identify only the LUCA materials that you have updated and are returning to the Census Bureau for the 2010 Decennial Census LUCA Program.		
GOVERNMENT NAME <div style="border: 1px solid black; height: 20px; width: 100%;"></div>		
Option 1 Participants	Option 2 and Option 3 Participants	
<p>A. Paper Lists</p> <p>1 <input type="checkbox"/> Census Bureau Address List Number of updated pages <input style="width: 50px;" type="text"/></p> <p>2 <input type="checkbox"/> Address List Add Page Number of updated pages <input style="width: 50px;" type="text"/></p> <p>3 <input type="checkbox"/> Address Count List Number of updated pages <input style="width: 50px;" type="text"/></p> <p>B. Computer-Readable Lists</p> <p>1 <input type="checkbox"/> Census Bureau Address List File – <i>Specify file name</i> ↗</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>Number of updated address records <input style="width: 50px;" type="text"/></p> <p>2 <input type="checkbox"/> Address Count List File – <i>Specify file name</i> ↗</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>Number of updated records <input style="width: 50px;" type="text"/></p> <p>C. MTPS Zip file</p> <p>Products updated –<i>Mark (X) all that apply.</i></p> <p>1 <input type="checkbox"/> Census Bureau Address List</p> <p>2 <input type="checkbox"/> Address Count List</p> <p>3 <input type="checkbox"/> Shapefiles</p>	<p>1 <input type="checkbox"/> Local Address List File – <i>Specify file name</i> ↗</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>Number of address records <input style="width: 50px;" type="text"/></p> <p>2 <input type="checkbox"/> MTPS Zip file</p> <hr/> <p>MAPS – All Non-MTPS Participants</p> <p><i>Mark (X) one box.</i></p> <p>1 <input type="checkbox"/> Shapefiles</p> <p>2 <input type="checkbox"/> Paper map Number of updated map sheets ... <input style="width: 50px;" type="text"/></p> <p>NOTE</p> <p>If you received paper maps and have boundary updates – <i>Please include the appropriate Boundary and Annexation Survey (BAS) form.</i></p>	

Glossary

Address breaks – Address breaks are the city-style addresses on each side of a boundary or at an intersection of a street with another street or another feature.

Address count list – Identifies the number of housing unit addresses and group quarters addresses on the Census Bureau’s address list for each census block within a jurisdiction.

Address range – The lowest and highest address numbers used to identify structures along each side of a street segment that has city-style addresses. Usually one side of the street has even address numbers and the other side has odd address numbers.

American Indian area – A Census Bureau term that refers to any or all of the following entities: American Indian reservation, American Indian off-reservation trust land, Oklahoma tribal statistical area, joint use area, American Indian tribal subdivision, tribal designated statistical area, and state designated American Indian statistical area.

American Indian off-reservation trust land – The United States holds title for specific areas in trust for the benefit of federally recognized American Indian tribes (tribal trust land) or for individual American Indians (individual trust land). Although trust land may be located on or off a reservation, the Census Bureau recognizes and tabulates data only for off-reservation trust land. Census data always associate off-reservation trust land with a specific federally recognized reservation or tribal government.

American Indian reservation – A federal American Indian reservation is an area that has been set aside by the United States for the use of one or more federally recognized American Indian tribes. It covers territory over which a tribe(s) has primary governmental authority. Its boundary is defined by tribal treaty, agreement, executive or secretarial order, federal statute, or judicial determination. A state American Indian reservation is an area that a state government has allocated to a tribe recognized by that state, but not by the federal government.

Block number – A 4-digit number, plus 1 alpha character block suffix, if applicable, used by the Census Bureau to identify each census block. Census blocks are numbered uniquely within each census tract.

Boundary – A line, either invisible or coincident with a visible feature that identifies the extent of a geographic entity, such as a census tract, city, or county.

Boundary and Annexation Survey – An annual survey to collect information about selected legally defined geographic areas. The BAS is used to update information about the legal boundaries and names of all governmental units in the United States.

Census Bureau address list – A nationwide list of all housing unit and group quarters addresses known to the Census Bureau. In addition to the mailing address and ZIP Code, the Address List may identify the location of each housing unit and group quarters.

Census block – A geographic area bounded by visible features, such as streets, roads, streams, and railroad tracks, and invisible features, such as the boundaries of governmental units and other legal entities. A census block is the smallest area for which the Census Bureau collects and tabulates statistical information. Census blocks are numbered within census tracts and are unique to the census tract to which they belong.

Census block number – Census block numbers contain a 4-digit number plus a 1-digit alpha character, if applicable, e.g. 3001A. Suffixes, such as 2011A and 2011B, reflect boundary changes as well as added features.

Census Bureau – An agency within the U.S. Department of Commerce. The U.S. Census Bureau is the country's preeminent statistical collection and dissemination agency. It publishes a wide variety of statistical data about people and the economy of the nation. The Census Bureau conducts approximately 200 annual surveys and conducts the decennial census of the United States population.

Census Bureau map – Any map produced by the Census Bureau. A Census Bureau map displays geographic entities used in a Census Bureau sponsored census or survey for which the Census Bureau tabulates data.

Census tract – A small, relatively permanent statistical division of a county or statistically equivalent entity, delineated for the purpose of presenting Census Bureau statistical data. Census tracts never cross the boundary of a county or statistically equivalent entity, but may split other geographic entities; e.g., minor civil divisions and places.

Census tract number – Unique numbers to identify census tracts within a county or statistically equivalent entity. Census tract numbers contain up to a 4-digit number followed by a decimal point and a 2-digit number for suffixed tracts, e.g., 1234.01. For census tracts without a suffix, the number will contain a period with zero fill, e.g., 4567.00. Leading zeros are not shown on Census Bureau maps.

Chief executive/highest elected official – The elected or appointed person who is the chief executive official of a governmental unit and is most responsible for the governmental activities of the governmental unit, such as the governor of a state, chair of a county commission, or mayor of an incorporated place. This person receives the LUCA Program invitation letter, and must designate a LUCA liaison, if desired.

City-style address – An address that consists of a house number and street name; for example, 201 Main Street. The address may or may not be used for the delivery of mail and may include apartment numbers/designations or similar identifiers.

Confidentiality – The guarantee made by law (Title 13, United States Code) to individuals who provide information about themselves or their business to the Census Bureau. This item refers to the Census Bureau's promise of nondisclosure of that information to others.

County – The primary legal division of most states. Most are governmental units with powers defined by state law.

Delivery Sequence File (DSF) – A computerized file containing all delivery point addresses serviced by the U.S. Postal Service (USPS). The USPS updates the DSF continuously as its letter carriers identify addresses for new delivery points or changes in the status of existing addresses.

Edges shapefile – All linear features in the MAF/TIGER database are contained in the edges shapefile. Use the edges shapefile to add, delete, or change linear feature attributes.

Enumeration – The process of interviewing people and recording the information on census forms.

Feature – Any part of the landscape, whether natural (such as, a stream or ridge) or artificial (such as a road or power line). In a geographic context, features are any part of the landscape portrayed on a map, including nonvisible boundaries of legal entities, such as city limits or county lines.

Federal Information Processing Standards codes (FIPS codes) – a standardized set of numeric or alphabetic codes issued by the National Institute of Standards and Technology (NIST) to ensure uniform identification of geographic entities through all federal government agencies. The entities covered include: states and statistically equivalent entities, counties and statistically equivalent entities, named populated and related location entities (such as places and county subdivisions), and American Indian and Alaska Native areas.

Geocodes – Codes that place an individual address in its correct geographic location, which includes the correct **state, county, census tract, and census block** codes.

Geographic Information System (GIS) – A computer system for the storage, retrieval, and maintenance of information about the points, lines, and areas that represent the streets and roads, rivers, railroads, geographic entities, and other features on the surface of the Earth-information that previously was available only on paper maps.

Governmental unit – A geographic entity established by legal action for the purpose of implementing specified governmental functions. Most governmental units provide a number of general government services and raise revenues (usually through taxing authority).

Group quarters – A place where people live or stay, in a group living arrangement, that is owned or managed by an entity or organization providing housing and/or services for the residents. This is not a typical household-type living arrangement. These services may include custodial or medical care as well as other types of assistance, and residency

is commonly restricted to those receiving these services. People living in group quarters are usually not related to each other.

Group quarters include such places as correctional facilities, juvenile facilities, nursing homes, hospitals with long-term care facilities, college or university dormitories, fraternities, sororities, dormitories for workers, religious group quarters, shelters, group homes.

Housing unit (HU) – A single-family house, townhouse, mobile home, trailer, apartment, group of rooms, or a single room occupied as a separate living quarters or, if vacant, intended for occupancy as a separate living quarters. A separate living quarters is one in which one or more occupants (or intended occupants, if vacant) live separate from any other individual(s) in the building and have direct access to the living quarters without going through another living quarters, such as from outside the building or through a common hall.

Legal boundary – The legally defined boundary of a governmental unit, usually referring to a county, minor civil division, or incorporated place. The legal boundary identifies the area within a local or state government's jurisdiction, and thus bounds the area of LUCA responsibility.

LUCA state liaison – Also known as the program primary liaison or designated liaison. A person voluntarily appointed by the chief executive/highest elected official of each state to review the Census Bureau's address list and maps against local records to identify differences.

MAF/TIGER Database – The Census Bureau's nationwide geographic database, which integrates the Master Address File (MAF) and Topologically Integrated Geographic Encoding and Referencing (TIGER[®]) files.

MAF/TIGER Partnership Software (MTPS) – A GIS application provided by the Census Bureau that has customized functionality required by Census Bureau geographic partnership programs.

Map Sheet to Block Number Relationship List – A list identifying census block numbers and the Census Bureau map(s) on which each block is located.

Master Address File (MAF) – A nationwide database of all addresses to support many of the Census Bureau's operations. Besides containing mailing addresses and ZIP Codes, a MAF record also contains geographic information about the location of addresses.

Metadata – describes the data content, coordinate system/projection, author, source, and other characteristics of GIS files.

Minor civil division (MCD) – A type of governmental unit that is the primary governmental or administrative subdivision of a county. MCDs are identified by a variety of terms, such as town (in 8 states), township, and/or district, and include both functioning and nonfunctioning governmental entities.

Noncity-style address – An address that does not have a house number and/or street name or may not include a complete house number and street name address. This includes rural route and box number address and highway contract route addresses, etc., which may include a box number, post office boxes and drawers, and general delivery.

Occupied housing unit – A housing unit is classified as occupied if it is the usual place of residence of the individual or group of persons living in it at the time of enumeration or if the occupants are only temporarily absent; for example, away on vacation. Occupied rooms or suites of rooms in hotels, motels, and similar places are classified as housing units only when occupied by permanent residents, that is, individuals for whom the facility is their usual place of residence.

Place – A concentration of population either legally bound as an incorporated place or identified by the Census Bureau as a census designated place.

Regional Office – One of 12 permanent Census Bureau offices responsible for the Census Bureau's office and field operations within its region.

Shapefile – Data set used to represent geographic features such as streets and boundaries. Shapefiles can represent point, line, or area features and require GIS or mapping software.

Street segment – The portion of a street or road between two features that intersect that street or road, such as other streets or roads, railroad tracks, streams, and governmental unit boundaries. The Census Bureau records the known address ranges for every street segment with city-style addresses.

Structure Point – A dot on a Census Bureau map, used to show the location of one or more living quarters. A 4-digit number plus 1-digit alpha character assigned within a census block to each structure point. Structure points are stored in the TIGER[®] database.

Topologically Integrated Geographic Encoding and Referencing (TIGER[®]) – A computer database that contains a digital representation of all map features (streets, roads, rivers, railroads, lakes, and so forth) required to support Census Bureau operations, the related attributes for each, and the geographic identification codes for all entities used by the Census Bureau to tabulate data for the United States, Puerto Rico, and Island Areas.

Vacant housing unit – A habitable structure containing living quarters that is not occupied. New housing units not yet occupied are classified as vacant housing units if

construction has reached a point where exterior windows and doors are installed and final usable floors and a roof are in place. Vacant units are excluded if open to the elements, or if there is positive evidence, such as a sign on the house, that the housing unit is to be demolished or has been condemned.

Index

- A**
- Address control file 1990, 2
defined, 2
- Address count list
file name, 12
file record layout, 16
pipe-delimited file example, 17
- Address list
opening files, 14
software requirements, 13
- Address range
in TIGER, 2
- Address types, 8
nonresidential, 8
residential, 8
- American Indian area
defined, 38
- American Indian off-reservation trust land
defined, 38
- American Indian reservation
defined, 38
- B**
- Block number
defined, 38
- Boundary
defined, 38
- C**
- Census address list improvement act of 1994, 2
- Census block
defined, 9, 10, 39
- Census tract. *See also* census tract number
defined, 9, 39
- Census tract number. *See also* census tract
defined, 39
- Chief executive/highest elected official
defined, 39
invitation, 1
- City-style address. *See* house number and street
name addresses
defined, 8, 39
- Confidentiality
defined, 39
- D**
- Delivery sequence file (DSF), 2
- F**
- Feature
defined, 40
Federal, 40
Format of the Files, 14
- G**
- Governmental unit
defined, 40
- Group quarters
acceptable types, 7
defined, 7, 41
unacceptable types, 7
- H**
- House number and street name addresses, 8
- Housing unit
acceptable, 6
defined, 6, 41
unacceptable types, 7
- L**
- Legal boundary
defined, 41
- Liaison
chief-executive/highest elected official, 39
defined, 41
- Local address list
sources, 11
- LUCA program
explained, 1
schedule, 4
shipping materials, 34
training, 4
- M**
- Master address file (MAF)
creation, 2
defined, 41
- Minor civil division. *See* legal boundary
- N**
- Noncity-style address
defined, 8, 42
- Non-house number and street name addresses.
See non-city style addresses
- Nonresidential addresses, 8
- O**
- Occupied housing unit
defined, 42

P

Participant responsibilities, 3
Pipe-delimited file
 address count list, 17
 defined, 13

S

Shapefile
 defined, 42

 submitting feature information, 22
Software requirements, 13
Strategies for review, 10
Structure point
 defined, 42

T

Topologically integrated geographic encoding
 and referencing. *See also* TIGER/Line[®] file
 defined, 42

U.S. Census Bureau Regional Offices
Toll Free 1-866-511 LUCA (5822)

Alabama
Georgia
Florida

Atlanta Regional Office
101 Marietta Street, N W , Ste. 3200
Atlanta, GA 30303-2700
Phone: 404-331-1339
FAX: 404-331-1570
TDD: 404-730-3963
E-mail:
atlanta.geography@census.gov

Detroit Regional Office
1395 Brewery Park Blvd, Ste. 100
Detroit, MI 48207
Phone: 313-656-0183
FAX: 313-259-2529
TDD: 313-259-5169
E-mail:
detroit.geography@census.gov

Michigan
Ohio
West Virginia

Connecticut
Maine
Massachusetts
New Hampshire
New York
Puerto Rico
Rhode Island
Vermont

Boston Regional Office
4 Copley Place, Ste. 301
P.O. Box 9108
Boston, MA 02117-9108
Phone: 617-424-4513
FAX: 617-424-0547
TDD: 617-424-0565
Email:
boston.geography@census.gov

Kansas City Regional Office
1211 North 8th Street
Kansas City, KS 66101-2129
Phone: 913-551-6833
FAX: 913-551-6780
TDD: 800-877-8339
E-mail:
kansas.city.geography@census.gov

Arkansas
Iowa
Kansas
Minnesota
Missouri
Oklahoma

Kentucky
North Carolina
South Carolina
Tennessee
Virginia

Charlotte Regional Office
901 Center Park Drive, Ste. 106
Charlotte, NC 28217-2935
Phone: 704-424-6420
FAX: 704-424-6966
TDD: 704-424-6963
E-mail:
charlotte.geography@census.gov

Los Angeles Regional Office
15350 Sherman Way, Ste. 300
Van Nuys, CA 91406
Phone: 818-267-1724
FAX: 818-267-1714
TDD: 818-904-6249
E-mail:
los.angeles.geography@census.gov

California
Hawaii

Illinois
Indiana
Wisconsin

Chicago Regional Office
1111 W 22nd Street, Ste. 400
Oak Brook, IL 60523-1918
Phone: 630-288-9245
FAX: 630-288-9313
TDD: 800-865-6384
Ext 13
E-mail: chicago.geography@census.gov

Philadelphia Regional Office
833 Chestnut Street, Ste. 504
Philadelphia, PA 19107-4405
Phone: 215-717-1830
FAX: 215-717-0875
TDD: 215-717-0894
E-mail:
philadelphia.geography@census.gov

Delaware
Maryland
New Jersey
Pennsylvania

Louisiana
Mississippi
Texas

Dallas Regional Office
8585 N Stemmons Freeway, Ste. 800 S
Dallas, TX 75247
Phone: 214-253-4470
FAX: 214-655-5365
TDD: 214-655-5363
E-mail:
dallas.geography@census.gov

Seattle Regional Office
601 Union Street, Ste. 3800
Seattle, WA 98101-1074
Phone: 206-381-6260
FAX 206-381-6313
TDD: 206-381-6318
E-mail:
seattle.geography@census.gov

Alaska
Idaho
Oregon
Washington

Arizona
Colorado
Montana
Nebraska
Nevada
New Mexico
North Dakota
South Dakota
Utah
Wyoming

Denver Regional Office
6900 W Jefferson Avenue, Ste. 100
Denver, CO 80235
Phone: 303-264-0290
FAX: 303-969-6776
TDD: 303-969-6767
E-mail:
denver.geography@census.gov