Guidelines for Verifying Census 2000 Traffic Analysis Zones

U.S. Department of Commerce
Economics and Statistics Administration
U.S. Census Bureau

Census 2000 Traffic Analysis Zone (TAZ) Program Verification Guidelines

I. Introduction

The Census Bureau will produce TAZ Verification TIGER/Line® files for the Federal Highway Administration (FHwA). These files will then be distributed to participating metropolitan planning organizations and state departments of transportation for the verification phase of the TAZ program. The TIGER/Line files are based on an extract of the TIGER data base with a reference date of January 1999 or later for governmental unit boundaries. These files will include the boundaries and codes for the Census 2000 TAZs proposed by the agencies, along with an updated feature network, governmental unit boundaries (including American Indian reservation and off-reservation trust land boundaries), and the proposed boundaries of Census 2000 statistical entities, such as census tracts, census block groups, census designated places, and census county divisions. During the verification phase of the TAZ program, participants will have an opportunity to review the Census 2000 TAZ boundaries as recorded in the TIGER data base and submit any corrections and limited revisions.

The following instructions are provided to all participants who are verifying Census 2000 TAZs. Included in this document is the information pertaining to the Census Bureau's TAZ boundary criteria, equivalency file format, and instructions for transmitting equivalency files to the Census Bureau. We encourage participants to carefully follow the instructions in order to provide the Census Bureau with corrections to Census 2000 TAZs.

II. TAZ Verification

Participants will receive TAZ Verification TIGER/Line files that contain proposed Census 2000 TAZ boundaries and codes. The files will not include address ranges, nor record types 6 and Z. Participants are to use the TAZ-UP verification software provided by the FHwA or a Geographic Information System (GIS) to review the 2000 TAZs that the Bureau inserted into the TIGER data base. Participants are asked to review the Census 2000 TAZ boundaries and codes and submit corrections and limited revisions to any TAZs that are not correct. Participants with many corrections will submit a polygon equivalency file to the Census Bureau via the Internet. The polygon equivalency file must reflect the revisions made to the Census 2000 TAZ plan and must include all polygons in the verification TIGER/Line file. Participants with few corrections can opt to submit sketch maps to the regional census center (RCC) by mail.

The Census Bureau can accept only one submission for each county or statistically equivalent entity. When multiple agencies define TAZs within a county, these agencies must work together to review the Census 2000 TAZs in the TAZ Verification TIGER/Line file and submit a single set of verification maps or equivalency files.

The Census Bureau requires that participants return their Census 2000 TAZ polygon equivalency files and/or sketch maps within one month after receipt of the TAZ Verification TIGER/Line files. This will be the only opportunity to review and correct TAZs for the Census 2000 Census Transportation Planning Package. Corrections or revisions submitted to the Bureau after one month may not be inserted into the TIGER data base.

III. Census 2000 TAZ Boundary Review and Adjustment

The geographic codes for the proposed Census 2000 TAZs are found in Record Type A of the TAZ Verification TIGER/Line files. The code is a 6-character alphanumeric in positions 75 through 80. The tentative Census 2000 census tracts are in Record Type S, in positions 72 through 77. The tentative Census 2000 block groups are in Record Type S, in position 96. Please refer to the technical documentation contained on the TIGER/Line file CD-ROM for specific information about the record layout and other information contained in the 1999 TIGER/Line files.

After reviewing the Census 2000 TAZs, participants may correct any TAZ boundary that the Bureau did not insert into TIGER correctly. All corrections/adjustments to proposed TAZs during the verification phase are subject to review and acceptance by the Census Bureau. The use of street and feature extensions is permitted. Please use the following guidelines for correcting Census 2000 TAZ boundaries using the TAZ-UP software or other GIS software.

A. Census 2000 TAZ Delineation Requirements

1. Unacceptable/Acceptable Features

The Census Bureau requires that TAZ boundaries follow features that will make good Census 2000 tabulation block boundaries in order to minimize the potential for the misallocation of data. Features with the following CFCCs are unacceptable for use as TAZ boundaries:

A12, A16, A22, A26, A32, A36, A42, A46, A52, A60, A61, B02, B12, B22, B32, C00, C30, E00, F00, F14, F15, F17, F18, F23, F24, F43, F50, F60, F70, F71, F72, F73, F74, F80, F82, F83, F84, F85, F86, F87, G00, G30, and X00

Features with a CFCC not listed above are acceptable for use as TAZ boundaries. (The TIGER/Line file documentation contains a complete listing of CFCCs and a description of each CFCC.)

2. Invalid Boundary Edit

Participants should review and edit their TAZ boundaries. All Census 2000 TAZ boundaries that follow features with unacceptable CFCCs must be revised. Corrections can be made by moving a TAZ boundary onto an acceptable feature or by correcting the identification of the feature to one that more accurately describes the acceptable feature.

To correct a CFCC, participants must submit sketch maps with the features in question labeled with the correct identifications. For example, a missing segment of road, shown in the TIGER database as an unacceptable feature type, should be labeled on the sketch map as "road" or with the actual road name. (NOTE: Requests for changes to the classification of a feature must meet the same requirements as adding a feature. All such requests are subject to review and the concurrence of the RCC geographic staff.) Be sure to label the correct TAZ code on either side of the added or corrected line for each sketch map submitted.

Census 2000 TAZ boundaries may follow former feature extensions that are not identified in the TIGER data base as feature extensions. Participants may submit sketch maps requesting that the former extensions be recognized as extensions for Census 2000. However, the Census Bureau encourages participants to do so only when there are no alternative features available, and where the former extensions are almost in compliance with the criteria.

3. Guidelines for Use of Street and Feature Extensions

Participants may use extensions from the ends of streets and nonstreet features to revise the boundaries of Census 2000 TAZs. Use the following criteria to define extensions:

a. Extension from a street - F21

1) Extensions are from streets to nonaddressable features.

2) Extensions are no longer than 100 meters.

3) Extensions are in a straight line from the end of the street.

b. Extension from a nonstreet feature - F22

1) Extensions are from nonstreet features to nonaddressable features.

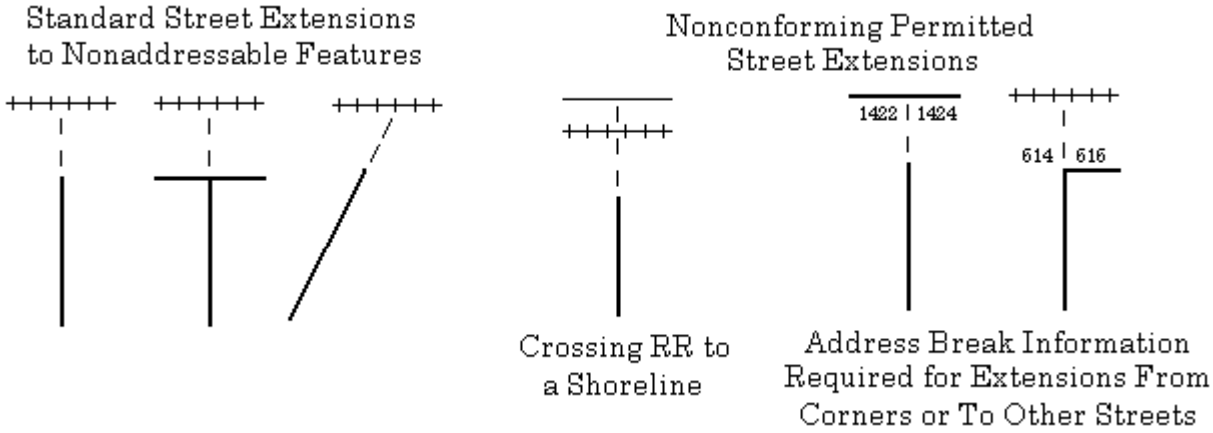
2) Extensions are no longer than 1,000 meters.

3) Extensions are in a straight line from the end of the nonstreet feature to the nonaddressable feature.

c. Extension Exceptions

Although the Census Bureau encourages participants to follow the above criteria, we will approve extensions that do not meet the criteria under certain circumstances, or when the participant can provide additional justifying information.

The Census Bureau will permit extensions from corners or to streets if the participant annotates the sketch map with the correct address-range break where the extension intersects a street or road. In addition, the Bureau will permit extensions that cross a nonaddressable feature to a shoreline when no other viable options are available. The illustrations below are examples of standard and permitted street extensions.



4. Using Features Not in the TAZ Verification TIGER/Line File

a. Participants can use features as TAZ boundaries that are not contained in the TAZ Verification TIGER/Line files. Roads, railroads, creeks, and visible property lines are examples of features that participants may request to be added to the TIGER data base in order that they may be used as a TAZ boundary.

b. All added features must currently exist, and all street feature update requests to be used as TAZ boundaries will be accepted only if they are verified by Census 2000 field operations or documented by current imagery provided by the submitting agency.

All nonstreet feature requests for TAZ boundaries are subject to the concurrence of the RCC geographers. The RCC geographers may request current aerial photography or satellite imagery to verify new features being requested.

c. All polygons split by a feature added for use as a TAZ boundary must contain a “PPPPPP” TAZ code in the TAZ equivalency file. The actual TAZ boundary and codes for these split polygons must be annotated on sketch maps.

d. Verification Sketch Maps

Participants must submit a verification sketch map showing the TAZ boundary feature to be reclassified or added in the TIGER data base. The verification sketch map must be clearly and legibly annotated with:

1) the name and CFCC of the added feature, such as “Johnson Blvd” or "unnamed stream ";

2) the TAZ boundary and TAZ codes that are using this feature;

3) the entire feature, not just the portion of the feature that is used as a TAZ boundary;

4) the Census File Identification Code (CENID) and the polygon identification code (POLYID) of the polygon being split by the added feature, or the CENID and POLYID of one of the polygons that bound the modified feature.

If the TAZ boundaries displayed in the Verification TIGER/Line file are accurate and require corrections to few TAZs (less than 20 as a guideline), participants do not have to submit a new polygon equivalency file. In these cases, the participant can choose to submit a sketch map showing corrections.

Clearly label each set of sketch maps with the following title: "Verification Map Submittal Only–No Equivalency File."

See the enclosure for the address of the RCC to which the sketch maps must be sent.

Using 20 as a guideline, evaluate how many TAZs require correction. If corrections are required for many TAZs (more than 20 as a guideline), the Census Bureau request that changes be submitted in a polygon equivalency file. This file will be just like the original TAZ submittal; it must include a record for each polygon in the TIGER/Line file and must be a comma delimited, ASCII, text file.

NOTE: If the area for which you are providing TAZ information is in more than one state and/or is covered by more than one RCC, send all sketch maps to the same RCC. Select the RCC that contains the county(s) with the greatest population. For example, the Memphis Metropolitan Planning Organization (MPO) includes counties in Arkansas, Mississippi, and Tennessee. These states are covered respectively by the Kansas City, Dallas, and Charlotte RCCs. Because Shelby County, TN has the greatest population, the Memphis MPO should send all sketch maps to the Charlotte RCC.

5. Complete Assignment of Census 2000 TAZ Codes

   Participants must assign a TAZ code to every polygon in the TAZ Verification TIGER/Line file for the county(ies) they cover.

   a. Participants must assign "ZZZZZZ" to all polygons that are not within a Census 2000 TAZ.

   b. As noted earlier, when submitting an equivalency file, participants must assign a TAZ code of "PPPPPP" to all polygons in the TIGER/Line file that are in more

than one TAZ due to the addition of a feature that is to be added to the TIGER data base.

B. TAZ Boundary Edits

Participants must review the boundaries of the TAZs to determine if all boundaries are following acceptable features and to determine if the TAZs form contiguous areas. The Census Bureau encourages participants to complete the following edits to ensure that the TAZs they submit are free of errors.

1. Invalid Boundary Edit

All Census 2000 TAZ boundaries that follow features with unacceptable CFCCs must be corrected. Participants should edit their TAZ boundaries using the list of unacceptable CFCCs shown on page 3. Corrections can be made by moving a TAZ boundary onto an acceptable feature or by changing the CFCC on the feature to one that is acceptable.

2. Contiguity Edit

Participants should review all TAZs that are discontiguous and redefine those that are not legitimately discontiguous.

3. Complete Code Coverage

Participants must assign a TAZ code to every polygon contained within the TAZ Verification TIGER/Line file. Participants should edit their file to ensure that all polygons are assigned a legitimate TAZ code, a PPPPPP code, or a ZZZZZZ code.

The Census Bureau will modify the boundaries of Census 2000 TAZs that do not conform to the above conditions. Participants will not have another opportunity to review the changes made by the Census Bureau.

IV. Census 2000 TAZ Polygon Equivalency File Format Requirements

The Census Bureau will return to participants for reprocessing any submitted equivalency files that do not meet the following specifications and file formats.

A. General Format Requirements

1. ASCII;

2. comma-delimited;

3. carriage-return/line-feed at the end of each line.

B. Specific Field Requirements

The Census Bureau requires that the Census 2000 TAZ polygon equivalency file contain a record in the following format for each polygon that exists only in the TAZ Verification TIGER/Line file. (It is critical that no change is made to the first three fields listed below.)

1. FILE Code: 5-character numeric code with leading zeros; found on Record Types 5, 7, 8, 9, A, H, I, P, R, and S.

2. CENID: 5-character alphanumeric code; found on Record Types 8, 9, A, I, P, R, and S.

3. POLYID: 1- to 10-character numeric code; found on Record Types 8, 9, A, I, P, R, and S.

4. Census 2000 TAZ code: 1- to 6-character alphanumeric code with NO leading zeros and NO leading blanks (see examples below). These codes are assigned and provided by the participant, and can be found in Record Type A of the TAZ Verification TIGER/Line files. The code is a 6-character alphanumeric in positions 75 through 80.

Example records of an acceptable Census 2000 TAZ polygon equivalency file are:

14005,A0164,2410,632A12
14005,A0164,156,515

The TAZ Verification TIGER/Line files must be used as the basis for the equivalency file because the CENID and POLYID are different for each version of TIGER/Line. The Census Bureau will use the CENID and POLYID fields to insert the plan into the TIGER database.

C. Polygon Equivalency File Name

Create a separate polygon equivalency file for each county or statistically equivalent entity. Name the file a prefix of “tgr” followed by the 5-digit FILE code and an extension of .tav

(ssccc.tav where ss = state code and ccc = county code); for example, tgr01001.tav.

V. Instructions for Submitting Verification Changes

If the TAZ boundaries displayed in the Verification TIGER/Line file are accurate and require corrections to few TAZs (less than 20 as a guideline), participants do not have to submit a new polygon equivalency file. In these cases, the participant can choose to submit a sketch map showing corrections.

Using 20 as a guideline, evaluate how many TAZs require correction. If corrections are required for many TAZs (more than 20 as a guideline), the Census Bureau request that changes be submitted in a polygon equivalency file. This file will be just like the original TAZ submittal; it must include a record for each polygon in the TIGER/Line file and must be a comma delimited, ASCII text file.

Participants are required to inform the Census Bureau (via e-mail) if no changes are required to their TAZ plan, if verification maps are being sent to the RCC, or if an equivalency file(s) will be sent to the Census Bureau. Please include the following staff on your notification e-mail message:

Valerie Murdock: vmurdock@geo.census.gov
Carrie Saunders: csaunders@geo.census.gov
Jamie Rosenson: jrosenson@geo.census.gov
Nanda Srinivasan: Nanda.Srinivasan@fhwa.dot.gov
TAZ contact at the responsible RCC (See TAZ RCC contact information for e-mail address)

A. To submit a TAZ polygon equivalency file to the Census Bureau log on to: http://www.census.gov/cgi-bin/taz/sendfile

B. At the Send a File Utility page, type in your e-mail address as a password.

C. Enter the required information under Contact Information:

- Your name
- Telephone number
- Agency name
- Your e-mail address

D. All TAZ verification files will be automatically directed to the following Census Bureau directory. The name of the directory is: /pub/incoming/geo/TAZef

E. Identify the files you want to transmit to the Census Bureau, by clicking on the Browse button. Navigate to the directory where

the files are stored and select the name of the files(s) so they appear in the File to Send boxes. You will have the ability to transmit up to six polygon equivalency files at one time.

The Census 2000 TAZ polygon equivalency file name must be shown with "tgr" as the prefix followed by the 5 digit state and county codes, ending with the extension ".tav". For example, "tgr17031.tav". Please note, the file name is case-sensitive.

F. After you have entered the file name(s), click on the Upload button to transmit your files to the Census Bureau.

You will receive confirmation by e-mail that the file transfer was successful. If you have difficulty transmitting files or do not receive a confirmation e-mail, please contact Valerie Murdock or Carrie Saunders on (301) 457-1099.

VI. Questions

A. For all questions prior to the submission of the polygon equivalency file, please contact Valerie Murdock or Carrie Saunders; either can be reached at (301) 457-1099, or via e-mail at vmurdock@geo.census.gov or csaunders@geo.census.gov.

B. After submission of the polygon equivalency file, please refer to the enclosure for the TAZ contact at each RCC.

Enclosure

Census 2000 Traffic Analysis Zone Program
Regional Census Center Liaison and Address List

Atlanta Regional Census Center
(AL, FL, GA)

Gene Wallace
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230 Peachtree St., NW
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(404)331-1339
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Boston Regional Census Center
(CT, ME, MA, NH, 53 NY counties, RI, VT, PR)
(NY - See New York RCC)

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Charlotte Regional Census Center
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Los Angeles Regional Census Center
(19 CA counties, HI)
(Fresno, Imperial, Inyo, Kern, Kings, Los Angeles, Madera, Mariposa, Merced, Monterey, Orange, Riverside, San Benito, San Bernadino, San Diego, San Luis Obispo, Santa Barbara, Tulare, Ventura)

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New York Regional Census Center
(10 NJ counties, 9 New York counties)
(NJ - Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset, Sussex, Union, Warren)
(NY - Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester)

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(NJ, 9 counties in NY)

Philadelphia Regional Census Center
(DC, DE, MD, 11 NJ counties, PA)
(NJ - See New York RCC)

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Seattle Regional Census Center
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