

**Request for Non-Substantive Change to the
Boundary and Annexation Survey
Office of Management and Budget Control No. 0607-0151
U.S. Department of Commerce
U.S. Census Bureau**

Purpose

The U.S. Census Bureau conducts the Boundary and Annexation Survey (BAS) annually to collect information about selected legally defined geographic areas. BAS provides tribal, state, and local governments an opportunity to review the Census Bureau's legal boundary data to ensure the Census Bureau has the correct boundary, name, and status. The Census Bureau uses the boundary information collected during BAS to tabulate data for the decennial and economic censuses, and for annual estimates and surveys such as the American Community Survey (ACS) and the Population Estimates Program (PEP). Title 13, Section 6, United States Code authorizes this survey.

Approved on November 30, 2021, the current BAS Office of Management and Budget (OMB) collection will expire on November 30, 2024. This non-substantive change (NSC) request is to update materials used for the 2024 BAS. Refer to [Table 2](#) (2024 BAS Materials Changes) for a complete list of updates made to the BAS materials.

Background

There are no substantive changes to BAS resulting from these modifications. The updated materials included do not alter the content or objective of BAS. The requested changes are necessary to reflect the current BAS cycle. Refer to [Table 1](#) (2024 BAS Material Descriptions) for a list and brief description of each of the BAS materials included with this NSC.

Additionally, we offer respondents multiple response methods using paper, the BAS partnership toolbox, or the Geographic Update Partnership Software (GUPS). For the 2024 BAS, we would like to broaden the use of both the BAS partnership toolbox and GUPS. The BAS partnership toolbox will be expanded to include an option for partners to use the toolbox in ArcGIS Pro in addition to ArcGIS Desktop. GUPS will be expanded to allow partners to respond using an online version called GUPS Web. The core processes for the BAS partnership toolbox in ArcGIS Desktop and ArcGIS Pro are identical, as will be the processes for GUPS and GUPS Web. Both response methods offer the same tools and prepare the same output for submission as their predecessors. The only difference in the BAS partnership toolbox in ArcGIS Desktop versus ArcGIS Pro is the version of ArcGIS software that the toolbox is built upon. The difference between GUPS and GUPS Web is that the partner downloads and installs GUPS locally while GUPS Web can be accessed online using a web-based log-in. The response burden will not change whether the participant uses the BAS partnership toolbox in ArcGIS Desktop or ArcGIS Pro, nor will it change based on how GUPS is accessed.

Burden

The burden of the 2024 BAS is unchanged by this update.

Attachments

Table 1: 2024 BAS Material Descriptions

BAS Material	Description
BAS-1L	To BAS contacts of governments that are not in a consolidated BAS (CBAS) or state BAS agreement.
BAS-2L	To BAS contacts of tribal governments.
BAS-3L	To the Highest Elected Official (HEO) of governments in a CBAS or state BAS agreement.
BAS-4L	To the BAS contact of governments not currently in a CBAS agreement but their county is.
BAS-5L	To the BAS contact of governments partially in a CBAS agreement. Entity in more than one county and one or more counties participates in CBAS (Partial CBAS).
BAS-6L	To CBAS county contacts.
BAS-ARF	Annual Response Form (ARF) included with the annual response letters.
BAS-9L	Cover letter for BAS materials package and GUPS DVD packages.
BAS-5I	Paper materials checklist included in the BAS materials package.
BAS-E-1L	Email to BAS contacts of governments that are not in a CBAS or state BAS agreement.
BAS-E-2L	Email to BAS contacts of tribal governments.
BAS-E-3L	Email to HEO contact of governments in a CBAS or state BAS agreement.
BAS-E-4L	Email to the BAS contact of governments not currently in a CBAS agreement but their county is.
BAS-E-5L	Email to the BAS contact of governments partially in a CBAS agreement; Entity in more than one county and one or more counties participates in CBAS (Partial CBAS).
BAS-E-6L	Email to CBAS county contacts.
BAS-E-7L	Courtesy copy of email sent to governments that receive the BAS-E-3L email to notify the Tribal Chair (TC)/HEO about the BAS but that their county submits to BAS on their behalf.
BAS Partnership Toolbox Pro How-to Guide	Instructions for participating in BAS using the BAS Partnership Toolbox for ArcGIS Pro.
BAS Partnership Toolbox How-to Guide	Instructions for participating in BAS using the BAS Partnership Toolbox for ArcGIS Desktop.

BAS Material	Description
BAS GUPS How-to Guide	Instructions for participating in BAS using the Geographic Update Partnership Software (GUPS).
BAS Paper How-to Guide	Instructions for participating in BAS using paper maps.

Table 2: 2024 BAS Material Changes

Reported Change	Material	Location in Material	Description/Summary of Change(s)
Updated links and references for various program dates	All Documents	Throughout Documents	Updated any references or links containing 2023 to 2024.
Updated Letterhead	BAS-1L, BAS-2L, BAS-3L, BAS-4L, BAS-5L, BAS-6L, BAS-5I, BAS-9L	N/A	Migrated materials to the updated letterhead.
Updated Template	BAS Partnership Toolbox How-to Guide, GUPS How-to Guide	N/A	Migrated materials to the updated GEO template.
Updated figure amount for allocated federal funds	BAS-1L, BAS-2L, BAS-3L, BAS-4L, BAS-5L, BAS-6L, BAS-E-1L, BAS-E-2L, BAS-E-3L, BAS-E-4L, BAS-E-5L, BAS-E-6L, BAS-E-7L	Second Bullet of Introductory Section	Updated the figure for allocated federal funds from \$675 billion to \$2.8 trillion.
Removed Online ARF Link	BAS-5I	Sentence Under Bullet List	Removed “or online at <

Reported Change	Material	Location in Material	Description/Summary of Change(s)
Updated OMB Location Text	BAS-ARF	Final Paragraph	Updated “upper left” to “upper right” in reference to the location of the OMB control number. Location did not change, text was incorrect.
New Material	BAS Partnership Toolbox Pro How-to Guide	N/A	Added the BAS Partnership Toolbox Pro How-to Guide to accompany the new BAS Partnership Toolbox in ArcGIS Pro.
Updated BAS Partnership Shapefile Links and References	BAS Partnership Toolbox How-to Guide	Throughout Document	Updated all references to the BAS Partnership Shapefiles “23v2”.
Removed Use of “Click”	BAS Partnership Toolbox How-to Guide, BAS GUPS How-to Guide	Throughout Document	Removed uses of “click” as an instruction and updated to “select” or “choose” as appropriate for 508 compliance. Exceptions include uses of “left-click”, “right-click”, and “double click”.
Changed Capitalization	BAS Partnership Toolbox How-to Guide, BAS GUPS How-to Guide, BAS Paper How-to Guide	Throughout Document	Changed “Census Designated Place” to “census designated place” except when referencing a specific tool menu option.
Updated Text	BAS Partnership Toolbox How-to Guide, BAS GUPS How-to Guide, BAS Paper How-to Guide	Introduction, Second Paragraph	Updated text to add the “Geospatial Data Act”, the “Evidence Act”, and “GeoPlatform.gov” to the list of programs BAS supports. Switched order of administrative and statistical boundaries in the first sentence. Changed “spatial” to “geospatial” in the second sentence. Moved “the Federal Geographic Data Committee” up in order of listed programs in the second sentence.
Updated ArcGIS Deprecation Description	BAS Partnership Toolbox How-to Guide	Section 1.1	Updated first sentence to better clarify ArcGIS Desktop deprecation and BAS Partnership Toolbox support for the future.
Removed Information for Data Provided on a CD/DVD	BAS Partnership Toolbox How-to Guide	Section 2.3.1	Removed section since data is only provided on a CD/DVD for GUPS users and is not relevant to the BAS Partnership Toolbox.
Updated Sub-Section Numbers	BAS Partnership Toolbox How-to Guide	Section 2.3	Updated sub-section numbers to reflect deleted section.

Reported Change	Material	Location in Material	Description/Summary of Change(s)
Updated Table Name	BAS Partnership Toolbox How-to Guide	Table 3, Table 8	Updated table names for clarity.
Updated Table Layouts	BAS Partnership Toolbox How-to Guide	Table 4, Table 5, Table 6, Table 9	Updated table layouts to remove split columns for 508 compliance. Content of tables remains unchanged.
Updated Note	BAS Partnership Toolbox How-to Guide	Table 3	Updated note underneath table to include an asterisk (*) for clarity. Removed text "The checkmark (✓) denotes a required field." since the name of the table refers to required attribution.
Updated CD/DVD Request Language	BAS GUPS How-to Guide	Section 1.1, Section 1.1.2	Removed language for requesting a CD/DVD through the Annual Response Form, added language for requesting a CD/DVD through email.
Added Note	BAS GUPS How-to Guide	Under Figure 11	Added note with language to account for the varying BAS year used in screenshots.
Fixed Typo	BAS GUPS How-to Guide	Section 3.2.3, Section 3.2.4	Updated "CHNGE_TYPE" to "CHNG_TYPE" in step 4d.
Fixed Section Reference Link	BAS GUPS How-to Guide	Section 3.9, Step 2	Added and formatted missing section reference link to Section 3.8.
Updated Section Headers	BAS Paper How-to Guide	Section 1.1, Section 1.2, Section 1.2.1, Section 1.3	Updated section header to remove "Step" text and clarify the action for each section.
Updated Mailing Address	BAS Paper How-to Guide	Section 1.3	Updated Census Bureau mailing address to reflect new location.
Updated Paragraph	BAS Paper How-to Guide	Section 2.1.2, First Paragraph	Removed second half of sentence for clarity.
Updated Section Header	BAS Paper How-to Guide	Section 2.4.1	Updated section header to better reflect section information and fit with the format of other section headers.
Removed Figure Description	BAS Paper How-to Guide	Figure 1, Figure 2, Figure 3, Figure 8, Figure 18, Figure 19, Figure 20, Figure 21, Figure 23, Figure 27	Removed extra descriptive text under caption. In each instance, text either repeated caption or information already given in the section text above the image.

Reported Change	Material	Location in Material	Description/Summary of Change(s)
Updated Figure Caption	BAS Paper How-to Guide	Figure 3	Updated figure caption for clarity.
Updated Figure Description	BAS Paper How-to Guide	Figure 4	Removed section of extra descriptive text that repeated the caption text.
Updated Text	BAS Paper How-to Guide	Section 2.3.1, First Sentence	Changed “right-of-ways” to “rights-of-way”.
Updated Wording	BAS Paper How-to Guide	Section 2.4.2, Second Sentence	Reworded “Before adding or revising” to “To add or revise”.
Updated Wording	BAS Paper How-to Guide	Section 2.4.3	Removed “or names” from final sentence as name changes do require documentation.
Removed Subsections	BAS Paper How-to Guide	Section 2.5	Removed subsection headers for 2.5.1 and 2.5.2.
Updated Section Header	BAS Paper How-to Guide	Section 3.1.1	Updated section header text to better match other headers in section.
Updated Figure Caption	BAS Paper How-to Guide	Figure 12	Reworded figure caption for clarity.
Rearranged Text	BAS Paper How-to Guide	Section 3.2	Moved USGS sentence to the first paragraph, was previously a standalone sentence under the second paragraph.



A Message from the Director, U.S. Census Bureau:

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Do not miss this opportunity to participate in BAS to ensure that the Census Bureau has current and accurate legal boundary, name, and status information for your government. Participants may also provide updates to census designated places.

BAS is a voluntary survey. We strongly encourage your participation in BAS for the following reasons:

- The Census Bureau uses this boundary information for data collection, tabulation, and dissemination for the decennial census, American Community Survey (ACS), Population Estimates Program (PEP), and many other censuses and surveys.
- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

Review your government's boundary and respond to BAS using one of the options below. If you already responded to this year's BAS, then no additional action is required.

- Respond online using the interactive BAS Annual Response Form. The form includes all resources and instructions necessary to review boundaries and respond to BAS. Interactive BAS Annual Response Form: <www.census.gov/geo/partnerships/bas/>.
- Complete the attached BAS Annual Response Form. Scan and email the form to <geo.bas@census.gov>. Please include your BAS ID and "Annual Response" in the subject line.

TRAINING OPPORTUNITIES

The Census Bureau is offering training webinars for BAS. The webinar schedule and registration instructions are on the BAS Webinars webpage at <www.census.gov/programs-surveys/bas/events.html>.

KEY DATES

- January 1** Boundary updates must be legally in effect on or before this date to be reported in the current survey year.
- March 1** First BAS deadline—Boundary updates returned by this date will be reflected in the ACS and PEP data and in next year’s BAS materials.
- May 31** Final BAS deadline—Boundary updates returned by this date will be reflected in next year’s BAS materials.

CONTACT INFORMATION

Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.



A Message from the Director, U.S. Census Bureau:

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Do not miss this opportunity to participate in BAS to ensure that the Census Bureau has current and accurate legal boundary, name, and status information for your tribal government. Participants may also provide updates to census designated places. The National American Indian Housing Council will also notify its members about BAS.

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- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

Review your government’s boundary and respond to BAS using one of the options below. If you already responded to this year’s BAS, then no additional action is required.

- Respond online using the interactive BAS Annual Response Form. The form includes all resources and instructions necessary to review boundaries and respond to BAS.
Interactive BAS Annual Response Form: <www.census.gov/geo/partnerships/bas/>.
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KEY DATES

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- March 1** First BAS deadline—Boundary updates returned by this date will be reflected in the ACS data and in next year’s BAS materials.
- May 31** Final BAS deadline—Boundary updates returned by this date will be reflected in next year’s BAS materials.

CONTACT INFORMATION

Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.



A Message from the Director, U.S. Census Bureau:

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Your state, county, or county equivalent government collaborates with the Census Bureau to provide a BAS response on your government's behalf. The Consolidated BAS (CBAS) representative reports all legal boundary, name, and status updates to the Census Bureau. Please work with your CBAS contact to ensure all boundary changes for your government are reported to BAS. Participants may also provide updates to census designated places.

BAS is a voluntary survey. We strongly encourage your participation in BAS for the following reasons:

- The Census Bureau uses this boundary information for data collection, tabulation, and dissemination for the decennial census, American Community Survey (ACS), Population Estimates Program (PEP), and many other censuses and surveys.
- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

Review your government's boundary and contact information and respond to BAS using one of the options below.

- Respond online using the interactive BAS Annual Response Form. The form includes all resources and instructions necessary to review boundaries and update contact information. Interactive BAS Annual Response Form: www.census.gov/geo/partnerships/bas/
- Review the contact information on the next page and email any updates to geo.bas@census.gov. Please include your BAS ID and "Annual Response" in the subject line.

HEO CONTACT

<FULL_NAME>
<POSITION>
<DEPT_NAME>
<MAILING_ADDRESS>
<CITY_STATE_ZIP>
<PHONE>
<EMAIL>

GOVERNMENT CONTACT

<FULL_NAME>
<POSITION>
<DEPT_NAME>
<MAILING_ADDRESS>
<CITY_STATE_ZIP>
<PHONE>
<EMAIL>

CONTACT INFORMATION

Please direct questions to your CBAS contact and work with them to ensure all boundary changes for your government are reported to BAS.

<COUNTY NAME|SAD> OR <NAME>

“Name:” <FULL_NAME>
“Position:” <POSITION>
“Department:” <DEPT_NAME>
“Mailing Address:” <MAILING ADDRESS>
“City, State, Zip, Zip+4:” <CITY_STATE_ZIP>
“Phone:” <PHONE>
“Email:” <EMAIL>

General BAS questions can be directed to:

Email: geo.bas@census.gov
Phone: 1-800-972-5651
Website: www.census.gov/programs-surveys/bas.html

Thank you for your participation in BAS.



A Message from the Director, U.S. Census Bureau:

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Do not miss this opportunity to participate in BAS to ensure that the Census Bureau has current and accurate legal boundary, name, and status information for your government. Participants may also provide updates to census designated places.

Your county or county equivalent government currently participates in a Consolidated BAS (CBAS) agreement. If you prefer your county or county equivalent government provide the report on behalf of your government, please email <geo.bas@census.gov> to request to join the CBAS agreement. Include your 11-digit BAS ID in the subject of the email.

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- The Census Bureau uses this boundary information for data collection, tabulation, and dissemination for the decennial census, American Community Survey (ACS), Population Estimates Program (PEP), and many other censuses and surveys.
- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

Review your government's boundary and respond to BAS using one of the options below. If you already responded to this year's BAS, then no additional action is required.

- Respond online using the interactive BAS Annual Response Form. The form includes all resources and instructions necessary to review boundaries and respond to BAS. Interactive BAS Annual Response Form: <www.census.gov/geo/partnerships/bas/>.
- Complete the attached BAS Annual Response Form. Scan and email the form to <geo.bas@census.gov>. Please include your BAS ID and "Annual Response" in the subject line.

TRAINING OPPORTUNITIES

The Census Bureau is offering training webinars for BAS. The webinar schedule and registration instructions are on the BAS Webinars webpage at <www.census.gov/programs-surveys/bas/events.html>.

KEY DATES

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- March 1** First BAS deadline—Boundary updates returned by this date will be reflected in the ACS and PEP data and next year’s BAS materials.
- May 31** Final BAS deadline—Boundary updates returned by this date will be reflected in next year’s BAS materials.

CONTACT INFORMATION

Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.



A Message from the Director, U.S. Census Bureau:

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Your government is in more than one county or county equivalent government, and at least one responds to BAS for a portion of your government. Please respond to BAS for the portion of your government located in <COUNTY_NAME_SAD>.

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- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

Review your government's boundary and respond to BAS using one of the options below. If you already responded to this year's BAS, then no additional action is required.

- Respond online using the interactive BAS Annual Response Form. The form includes all resources and instructions necessary to review boundaries and respond to BAS. Interactive BAS Annual Response Form: <www.census.gov/geo/partnerships/bas/>.
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CONTACT INFORMATION

Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.



A Message from the Director, U.S. Census Bureau:

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Your government holds a Consolidated BAS (CBAS) agreement and reports to BAS on behalf of governments in the agreement. Do not miss this opportunity to participate in BAS to ensure that the Census Bureau has current and accurate legal boundary, name, and status information for your government and the governments in your CBAS agreement. Participants may also provide updates to census designated places.

BAS is a voluntary survey. We strongly encourage your participation in BAS for the following reasons:

- The Census Bureau uses this boundary information for data collection, tabulation, and dissemination for the decennial census, American Community Survey (ACS), Population Estimates Program (PEP), and many other censuses and surveys.
- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

Review your government's boundary and respond to BAS using one of the options below. If you already responded to this year's BAS, then no additional action is required.

- Respond online using the interactive BAS Annual Response Form. The form includes all resources and instructions necessary to review boundaries and respond to BAS. Interactive BAS Annual Response Form: www.census.gov/geo/partnerships/bas/.
- Complete the attached BAS Annual Response Form. Scan and email the form to geo.bas@census.gov. Please include your BAS ID and "Annual Response" in the subject line.

TRAINING OPPORTUNITIES

The Census Bureau is offering training webinars for BAS. The webinar schedule and registration instructions are on the BAS Webinars webpage at <www.census.gov/programs-surveys/bas/events.html>.

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- May 31** Final BAS deadline—Boundary updates returned by this date will be reflected in next year’s BAS materials.

CONTACT INFORMATION

Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.



FORM **BAS-ARF**
(09-2023)

BOUNDARY AND ANNEXATION SURVEY ANNUAL RESPONSE FORM

OMB No. 0607-0151 Approval Expires: 11/30/2024

Use the resources on the Boundary and Annexation Survey (BAS) website <www.census.gov/programs-surveys/bas.html> to review the boundary data for your government. Select a response and planned submission method below, then review the provided contact information.

RESPONSE: Do you have boundary changes to report?

- Yes, we have boundary changes to report.
- No, we do not have boundary changes to report. The Census Bureau's boundary data is correct.

SUBMISSION METHOD: If you have boundary changes to report, select your planned submission method. If you do not have boundary changes, review the provided contact information below.

- BAS Partnership Toolbox Download** - The BAS Partnership Toolbox allows partners to create their submission in ArcGIS Pro or ArcGIS Desktop. The Toolbox automates data download, boundary change creation, and exports standardized files for submission to the Census Bureau.
- GUPS Download** - The Geographic Update Partnership Software (GUPS) is a customized stand-alone and installable geographic information system (GIS) developed in QGIS. GUPS allows partners to manually create boundary changes and export standardized files for submission to the Census Bureau.
- Paper Maps** - The Census Bureau will ship large format paper maps and instructions for partners to annotate and return boundary changes to the Census Bureau.

CONTACT INFORMATION: Review and update the contact information for your government's Tribal Chair (TC)/Highest Elected Official (HEO) and BAS Contact. The BAS contact provided should be a representative from your government and not a state or county contact who submits on your behalf. This person is the point of contact for questions about your government's boundaries and will receive future BAS correspondence.

Our records indicate the **TC/HEO** contact is:

Our records indicate the **BAS** contact is:

Name of person filling out this form:

Position:

Date:

Scan and email the completed form to <geo.bas@census.gov>. To respond over the phone, call 1-800-972-5651.

BAS-9L
OMB Control No.: 0607-0151
Expiration Date: 11-30-2024



UNITED STATES DEPARTMENT OF COMMERCE
U.S. Census Bureau
Office of the Director
Washington, DC 20233-0001

A Message from the Director, U.S. Census Bureau:

Thank you for your response to the Boundary and Annexation Survey (BAS). Enclosed are the materials you requested to report boundary changes. Use the provided materials to create your BAS submission.

Participants that received the Geographic Update Partnership Software and BAS partnership shapefiles on CD/DVD should refer to the 'Read Me file' on the data CD/DVD for more information on preparing your BAS submission.

Participants that received paper maps should refer to the insert (BAS-5I) for next steps to begin preparing your BAS submission.

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- May 31** Final BAS deadline—Boundary updates returned by this date will be reflected in next year's BAS materials.

CONTACT INFORMATION

Email: <geo.bas@census.gov>
Phone: 1-800-972-5651
Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.

Enclosures

BAS-5I
OMB Control No.: 0607-0151
Expiration Date: 11-30-2024



UNITED STATES DEPARTMENT OF COMMERCE
U.S. Census Bureau
Office of the Director
Washington, DC 20233-0001

Enclosed are the requested Paper Boundary and Annexation Survey (BAS) materials to create your submission.

This package includes:

- BAS materials package cover letter
- *Paper BAS How-to Guide* - review latest updates at www.census.gov/programs-surveys/bas/information/response-methods.html.
- Maps
- Colored pencils
- Postage-paid return envelope

To change your submission method to receive the Geographic Update Partnership Software on CD/DVD, please contact the Census Bureau at geo.bas@census.gov or 1-800-972-5651.

Action Steps:

1. Review the contents of the package.
2. Update the maps using the appropriate colored pencils.
3. Return only the map sheets with updates to the Census Bureau using the provided postage-paid return envelope or scan and email the completed materials to geo.bas@census.gov.

E-mail: BAS 1L <overprinting> and Text

Subject: YYYY Boundary and Annexation Survey (BAS)- BAS ID: <BAS_ID>

<DATE>

“BAS ID:” <BAS_ID>, <NAME> <ENTITY_LSAD_PUB_NAME>

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BAS is a voluntary survey. We strongly encourage your participation in BAS for the following reasons:

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- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

- **Review your government’s boundary and respond to BAS** using our interactive BAS Annual Response Form. The form includes all resources and instructions to review boundaries and respond to BAS.

[Click here to complete the Annual Response Form](#)

TRAINING OPPORTUNITIES

The Census Bureau is offering training webinars for BAS. The webinar schedule and registration instructions are on the [BAS Webinars webpage](#).

KEY DATES

- | | |
|------------------|---|
| January 1 | Boundary updates must be legally in effect on or before this date to be reported in the current survey year. |
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Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.

E-mail: BAS 2L - American Indian Areas <overprinting> and Text

Subject: YYYY Tribal Boundary and Annexation Survey (BAS) - BAS ID: <BAS_ID>

<DATE>

“BAS ID:” <BAS_ID>, <NAME>
< LEGAL_AIA_NAME>

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Do not miss this opportunity to participate in BAS to ensure that the Census Bureau has current and accurate legal boundary, name, and status information for your tribal government. Participants may also provide updates to census designated places. The National American Indian Housing Council will also notify its members about BAS.

BAS is a voluntary survey. We strongly encourage your participation in BAS for the following reasons:

- The Census Bureau uses this boundary information for data collection, tabulation, and dissemination for the decennial census, American Community Survey (ACS), and many other censuses and surveys.
- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

- **Review your government’s boundary and respond to BAS** using our interactive BAS Annual Response Form. The form includes all resources and instructions to review boundaries and respond to BAS.

[Click here to complete the Annual Response Form](#)

TRAINING OPPORTUNITIES

The Census Bureau is offering training webinars for BAS. The webinar schedule and registration instructions are on the [BAS Webinars webpage](#).

KEY DATES

- | | |
|------------------|---|
| January 1 | Boundary updates must be legally in effect on or before this date to be reported in the current survey year. |
| March 1 | First BAS deadline—Boundary updates returned by this date will be reflected in the ACS data and in next year’s BAS materials. |
| May 31 | Final BAS deadline—Boundary updates returned by this date will be reflected in next year’s BAS materials. |

CONTACT INFORMATION

Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.

Email: BAS 3L <overprinting> and Text– County and State Consolidation Agreements

Subject: YYYY Boundary and Annexation Survey – CBAS- BAS ID: <BAS_ID>

<DATE>

“BAS ID:” <BAS_ID>, < NAME> <ENTITY_LSAD_PUB_NAME>

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Your state, county, or county equivalent government collaborates with the Census Bureau to provide a BAS response on your government’s behalf. The Consolidated BAS (CBAS) representative reports all legal boundary, name, and status updates to the Census Bureau. Please work with your CBAS contact to ensure all boundary changes for your government are reported to BAS. Participants may also provide updates to census designated places.

BAS is a voluntary survey. We strongly encourage your participation in BAS for the following reasons:

- The Census Bureau uses this boundary information for data collection, tabulation, and dissemination for the decennial census, American Community Survey (ACS), Population Estimates Program (PEP), and many other censuses and surveys.
- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

- **Review your government’s boundary and confirm or update your contact information** using our interactive BAS Annual Response Form. The form includes all resources and instructions to review boundaries and provide contact updates to BAS.

[Click here to complete the Annual Response Form](#)

CONTACT INFORMATION

Please direct questions to your CBAS contact and work with them to ensure all boundary changes for your government are reported to BAS.

<COUNTY_NAME|SAD> or <NAME>

“Name:” <FULL_NAME>

“Position:” <POSITION>

“Department:” <DEPT_NAME>

“Mailing Address:” <MAILING ADDRESS>

“City, State, Zip, Zip+4:” <CITY_STATE_ZIP>

“Phone:” <PHONE>

“Email:” <EMAIL>

General BAS questions can be directed to:

Email: [<geo.bas@census.gov>](mailto:geo.bas@census.gov)

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.

Email: BAS 4L- <overprinting> and text-not currently CBAS but their County is

Subject: YYYY Boundary and Annexation Survey (BAS) – Not included in County’s CBAS- BAS ID: <BAS_ID>

<DATE>

“BAS ID:” <BAS_ID>, < NAME> <ENTITY_LSAD_PUB_NAME>

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Do not miss this opportunity to participate in BAS to ensure that the Census Bureau has current and accurate legal boundary, name, and status information for your government. Participants may also provide updates to census designated places.

Your county or county equivalent government currently participates in a Consolidated BAS (CBAS) agreement. If you prefer your county or county equivalent government provide the report on behalf of your government, please email <geo.bas@census.gov> to request to join the CBAS agreement. Include your 11-digit BAS ID in the subject of the email.

BAS is a voluntary survey. We strongly encourage your participation in BAS for the following reasons:

- The Census Bureau uses this boundary information for data collection, tabulation, and dissemination for the decennial census, American Community Survey (ACS), Population Estimates Program (PEP), and many other censuses and surveys.
- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

- **Review your government’s boundary and respond to BAS** using our interactive BAS Annual Response Form. The form includes all resources and instructions to review boundaries and respond to BAS.

[Click here to complete the Annual Response Form](#)

TRAINING OPPORTUNITIES

The Census Bureau is offering training webinars for BAS. The webinar schedule and registration instructions are on the [BAS Webinars webpage](#).

KEY DATES

- | | |
|------------------|---|
| January 1 | Boundary updates must be legally in effect on or before this date to be reported in the current survey year. |
| March 1 | First BAS deadline—Boundary updates returned by this date will be reflected in the ACS and PEP data and in next year’s BAS materials. |
| May 31 | Final BAS deadline—Boundary updates returned by this date will be reflected in next year’s BAS materials. |

CONTACT INFORMATION

Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.

Email: BAS 5L <overprinting> and text- CBAS Partial -Entity in more than one county

Subject: YYYY Boundary and Annexation Survey – Partial CBAS – BAS ID: <BAS_ID>

<DATE>

“BAS ID:” <BAS_ID>, <NAME> <ENTITY_LSAD_PUB_NAME>

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Do not miss this opportunity to participate in BAS to ensure that the Census Bureau has current and accurate legal boundary, name, and status information for your government. Participants may also provide updates to census designated places.

Your government is in more than one county or county equivalent government, and at least one responds to BAS on behalf of a portion of your government. Please respond to BAS for the portion of your government located in <COUNTY_NAME|LSAD>.

BAS is a voluntary survey. We strongly encourage your participation in BAS for the following reasons:

- The Census Bureau uses this boundary information for data collection, tabulation, and dissemination for the decennial census, American Community Survey (ACS), Population Estimates Program (PEP), and many other censuses and surveys.
- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

- **Review your government’s boundary and respond to BAS** using our interactive BAS Annual Response Form. The form includes all resources and instructions to review boundaries and respond to BAS.

[Click here to complete the Annual Response Form](#)

TRAINING OPPORTUNITIES

The Census Bureau is offering training webinars for BAS. The webinar schedule and registration instructions are on the [BAS Webinars webpage](#).

KEY DATES

- | | |
|------------------|---|
| January 1 | Boundary updates must be legally in effect on or before this date to be reported in the current survey year. |
| March 1 | First BAS deadline—Boundary updates returned by this date will be reflected in the ACS and PEP data and in next year’s BAS materials. |
| May 31 | Final BAS deadline—Boundary updates returned by this date will be reflected in next year’s BAS materials. |

CONTACT INFORMATION

Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.

E-mail: BAS 6L <overprinting> and Text – Counties with a CBAS Agreement

Subject: YYYY Boundary and Annexation Survey (BAS)- BAS ID: <BAS_ID>

<DATE>

“BAS ID:” <BAS_ID>, <NAME> <ENTITY_LSAD_PUB_NAME>

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Your government holds a Consolidated BAS (CBAS) agreement and reports to BAS on behalf of governments in the agreement. Do not miss this opportunity to participate in BAS to ensure that the Census Bureau has current and accurate legal boundary, name, and status information for your government and the governments in your CBAS agreement. Participants may also provide updates to census designated places.

BAS is a voluntary survey. We strongly encourage your participation in BAS for the following reasons:

- The Census Bureau uses this boundary information for data collection, tabulation, and dissemination for the decennial census, American Community Survey (ACS), Population Estimates Program (PEP), and many other censuses and surveys.
- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Step:

- **Review the boundaries for your government and the governments in your CBAS agreement and respond to BAS** using our interactive BAS Annual Response Form. The form includes all resources and instructions to review boundaries and respond to BAS.

[Click here to complete the Annual Response Form](#)

TRAINING OPPORTUNITIES

The Census Bureau is offering training webinars for BAS. The webinar schedule and registration instructions are on the [BAS Webinars webpage](#).

KEY DATES

- | | |
|------------------|---|
| January 1 | Boundary updates must be legally in effect on or before this date to be reported in the current survey year. |
| March 1 | First BAS deadline—Boundary updates returned by this date will be reflected in the ACS and PEP data and in next year’s BAS materials. |
| May 31 | Final BAS deadline—Boundary updates returned by this date will be reflected in next year’s BAS materials. |

CONTACT INFORMATION

Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.

BAS 7L- TC/HEO CC-Email <Overprinting> and Text

Subject: YYYY Boundary and Annexation Survey – TC/HEO Courtesy Copy – BAS ID: <BAS_ID>

<DATE>

“BAS ID:” <BAS_ID>, <NAME> <ENTITY_LSAD_PUB_NAME>

This is a courtesy copy to the tribal chair or highest elected official.

The U.S. Census Bureau is now conducting the Boundary and Annexation Survey (BAS). Do not miss this opportunity to participate in BAS to ensure that the Census Bureau has current and accurate boundary, legal name, and status information for your government. Participants may also provide updates to census designated places.

BAS is a voluntary survey. We strongly encourage your participation in BAS for the following reasons:

- The Census Bureau uses this boundary information for data collection, tabulation, and dissemination for the decennial census, American Community Survey (ACS), Population Estimates Program (PEP), and many other censuses and surveys.
- The federal government allocates more than \$2.8 trillion in federal funds annually for health, welfare, infrastructure, education, and other federal programs and services. Correct boundaries ensure governments receive funds appropriately and have the best data available for their decision-making processes.

Action Steps:

- Verify that the BAS contact has responded to the survey. The BAS announcement email was recently sent to this BAS contact:

Name: <FULL_NAME>
Position: <POSITION>
Department: <DEPT_NAME>
Mailing Address: <MAILING_ADDRESS>
City, State, Zip, Zip+4: <CITY_STATE_ZIP>
Phone: <PHONE>
Email: <EMAIL>

- Review and update your contact information. Reply to this email or email geo.bas@census.gov with updates. Please include the 11-digit BAS ID number listed at the top of this email in the subject line of your message.

Name: <FULL_NAME>
Position: <POSITION>
Department: <DEPT_NAME>
Mailing Address: <MAILING_ADDRESS>
City, State, Zip, Zip+4: <CITY_STATE_ZIP>
Term Expiration Date: <TERM_EXP_DATE>
Election Cycle: <HEO_ELECTION_CYCLE>

KEY DATES

- January 1** Boundary updates must be legally in effect on or before this date to be reported in the current survey year.
- March 1** First BAS deadline—Boundary updates returned by this date will be reflected in the ACS and PEP data and in next year’s BAS materials.
- May 31** Final BAS deadline—Boundary updates returned by this date will be reflected in next year’s BAS materials.

CONTACT INFORMATION

Email: <geo.bas@census.gov>

Phone: 1-800-972-5651

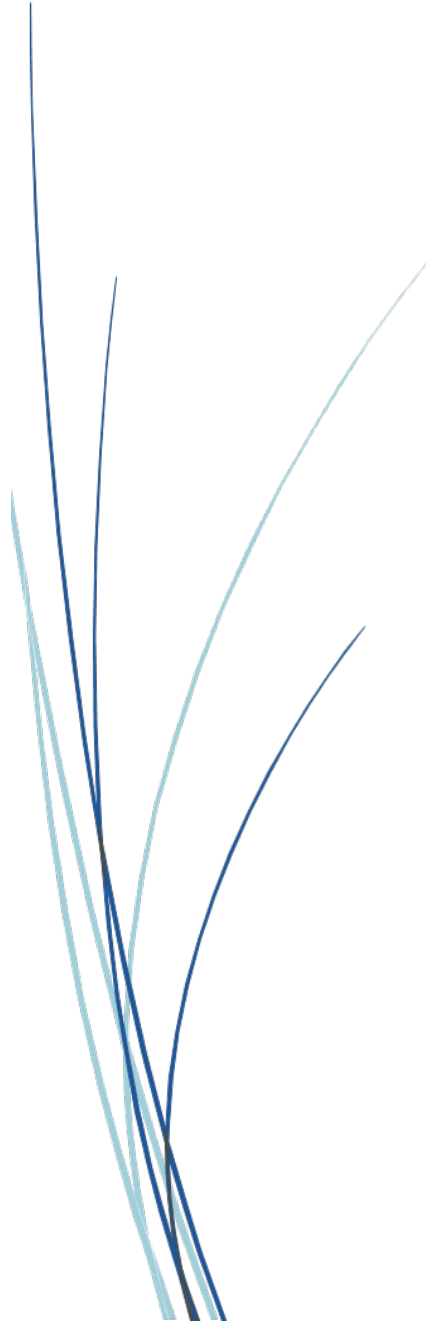
Website: <www.census.gov/programs-surveys/bas.html>

Thank you for your participation in BAS.

Boundary and Annexation Survey Partnership Toolbox Pro How-to Guide

*Instructions for Participating in the Boundary and Annexation Survey Using the Partnership
Toolbox for ArcGIS Pro*

January 2024



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INTRODUCTION

A. The Boundary and Annexation Survey

The Boundary and Annexation Survey (BAS) provides tribal, state, and local governments an opportunity to review the Census Bureau’s legal boundary data to ensure the Census Bureau has the correct boundary, name, and status information. BAS also allows participants to review and provide updates to census designated places (CDPs). Maintaining correct boundaries helps ensure that the Census Bureau assigns the appropriate housing and population counts to each government. Title 13, Section 6, United States Code authorizes this survey.

BAS fulfills the agency’s responsibility as part of the National Spatial Data Infrastructure, for which the Office of Management and Budget (OMB) Circular A–16 designates the Census Bureau as the lead federal agency for maintaining national data about legal government boundaries, as well as administrative and statistical boundaries. BAS supports the geospatial data steward responsibilities of the Geospatial Data Act, the Evidence Act, OMB E-Gov, the Federal Geographic Data Committee, Data.gov, GeoPlatform.gov, the National Map, the Geographic Names Information System, and the Geospatial One-Stop.

The Census Bureau uses the boundaries collected in BAS to tabulate data for various censuses and surveys including the decennial census, American Community Survey (ACS), and Population Estimates Program (PEP). It also uses the legal boundaries collected through BAS to support several other programs such as Congressional and State Legislative redistricting, the Economic Census, the Geographic Update Population Certification Program, and the Special Census program.

B. Key Dates for BAS Respondents

- January 1** Boundary updates must be legally in effect on or before this date to be reported in the current survey year.
- March 1** First BAS deadline - Boundary updates returned by this date will be reflected in the ACS and PEP data and in next year’s BAS materials.
- May 31** Final BAS deadline - Boundary updates returned by this date will be reflected in next year’s BAS materials.

C. Adjacencies and Legal Disputes

The Census Bureau will not make any boundary change that affects adjacent legal governments without the appropriate documentation. Please review any changes that affect adjacent governments to determine if they are intentional legal changes. If the Census Bureau discovers that an area of land is in dispute between two or more jurisdictions, the Census Bureau will not make any boundary corrections until the parties come to a written agreement, or there is a documented final court decision regarding the dispute.

To learn more, please contact the Census Bureau Legal Office at **1-301-763-2918**.

For disputes involving tribal areas, the Census Bureau must defer to the Office of the Solicitor at the Department of the Interior for a legal opinion. Often complicated land issues require an extended period for resolution, and in those cases, the Census Bureau will retain the current boundary in the database until a legal opinion is issued by the Solicitor's office.

D. Contact Us

If assistance is required in preparing your BAS submission or if you are experiencing issues with the ArcGIS Partnership toolbox, please contact the Census Bureau at [<geo.bas@census.gov>](mailto:geo.bas@census.gov) or **1-800-972-5651**.

When emailing [<geo.bas@census.gov>](mailto:geo.bas@census.gov), please include the following details:

- BAS ID and Government Name,
- Level of geography for which you are submitting,
- Contact information such as a phone number or email address,
- Version of ArcGIS you are using,
- Full text of the error message received as a screenshot or text (if applicable), and
- Screenshots of discrepancies (if applicable).

E. Resources

Additional resources are available on our website. Technical documentation and helpful videos are also available to walk through the BAS submission process.

Technical Documentation

For more technical information about Census Bureau Geography, BAS Submission information, change types, and shapefiles, see the BAS Technical Guide at [<www.census.gov/programs-surveys/bas/information/respondent-guides.html>](http://www.census.gov/programs-surveys/bas/information/respondent-guides.html).

Videos

The Census Bureau created training videos to give BAS participants detailed instructions and information on how to report and submit BAS changes. These videos are available on the BAS website at: [<www.census.gov/programs-surveys/bas/library/bas-videos.html>](http://www.census.gov/programs-surveys/bas/library/bas-videos.html).

CHAPTER 1 GETTING STARTED WITH THE PARTNERSHIP TOOLBOX

The Digital BAS Partnership Toolbox – Pro was created to ease the burden of creating change files on BAS and Tribal BAS participants. This toolbox simplifies the update process by automating the download of data, change creation, sliver removal, attribution formatting and checks, and exporting files for submission. This allows the Census Bureau to easily process returned BAS files. New tools have been added as of the 2022 BAS to facilitate the update of linear features, landmarks, and census designated places (CDPs) and the toolbox has now been adapted to work in ArcGIS Pro. This how-to guide will walk participants through all the above steps to create their digital submission in ArcGIS Pro.

1.1 Submission Requirements

Participation in the current BAS cycle means that participants will provide the following:

1. A shapefile of boundary change polygons based off the current Census Bureau boundary. Submissions containing only a whole entity boundary shapefile of the current local data will not be accepted.
2. Legal documentation numbers, authorization types, and effective dates for all legal boundary changes (annexations and deannexations).
3. For tribal submissions, digital copies of the legal documentation to submit with the change polygons. Acceptable documents include but are not limited to a federal register notice, acceptance of conveyance and warranty deed, title status report, BIA certification or letter.
4. Each non-legal boundary correction with proper attribution according to boundary corrections guidelines laid out in [Chapter 3](#). If the correct attribution is not provided, the Census Bureau will not make the correction for this BAS cycle.
5. Current information for the BAS point of contact, the person updating the shapefiles, and the Highest Elected Official (HEO) or Tribal Chair (TC) for the government.

The BAS Partnership Toolbox simplifies the process for all the above requirements.

1.2 Partnership Toolbox Requirements

Before running these tools, users will need the following:

- **ArcGIS Pro 2.9** or higher (not ArcGIS Desktop).
- **The BAS Partnership Toolbox – Pro.zip**, which can be downloaded at: www.census.gov/programs-surveys/bas/geographies/map-tools/arcmap-tools.html.
- The **BAS ID** for the government being processed. This can be found on the BAS Annual Response email, letter, or online at: www.census.gov/programs-surveys/bas/technical-documentation/code-lists.html.
- **A shapefile or feature class showing the legal boundary of the government.**
 - Data in this layer should include the name of the government being processed formatted to agree with the Census Bureau’s naming convention for the same government as found in the NAME field or the NAMELSAD field for Minor Civil Division (MCD) and American Indian / Alaska Native / Native Hawaiian (AIANNH).

- **Digital copies of the legal documentation** to be submitted with the change polygons. This is required for tribal submissions and requested for all other submissions.
 - For tribal changes: acceptable documents include, but are not limited to, a federal register notice, acceptance of conveyance and warranty deed, title status report, or BIA certification or letter.
 - For all other changes (optional): acceptable documents include, but are not limited to, ordinances, resolutions, changes to a local or state law, or court rulings.
- **(Optional) The 2024 BAS Partnership Shapefiles**, which may be downloaded manually from the Census Bureau website. These files are located at:
<www.census.gov/geographies/mapping-files/2024/geo/bas/2024-bas-shapefiles.html>.
 - The shapefile download is automated in the Partnership Toolbox, but in instances where downloads are restricted or internet connectivity is limited, participants may find that pre-downloading these files is simpler and faster.

CHAPTER 2 CREATING A SUBMISSION

This chapter provides step-by-step instructions for using the BAS Partnership Toolbox – Pro to setup your workspace and create change polygons. For best results, use the toolbox in ArcGIS Pro 2.9 or higher (not ArcGIS Desktop).

2.1 Toolbox Tools Setup

After downloading the toolbox from the BAS website, locate the zip file in your File Explorer.

1. Unzip the **Digital BAS Partnership Tools-Pro.zip** to the C: drive or other preferred working folder. The folder location does not matter as long as it can be accessed from ArcGIS Pro. Inside there will be a folder called DBAS, containing all the files to work with for a government.
2. Do not attempt to change the file structure inside the DBAS folder. Moving folders or files from where they are located may cause issues later in the process.
3. Open ArcGIS Pro and select a new **Map** under the Blank Templates section of the splash screen. In the **Name** field, enter the BASID for your entity. In the **Location** field, navigate to, and select the “...\DBAS\projects” folders. Ensure that the box to **Create a new folder for this project** is selected.

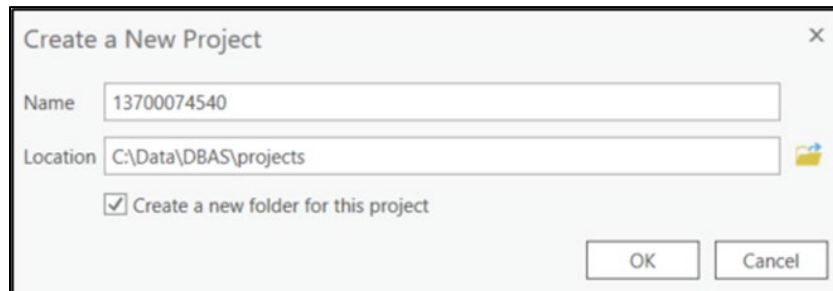


Figure 1. Beginning an ArcGIS Pro Project

4. Once the new project opens, navigate to the **Insert** tab, select the **Toolbox** drop down, then **Add Toolbox**. Navigate to the “...\DBAS\setup” folder and select the **Partnership BAS Tools Pro** toolbox.
5. At this point, expand the **Toolboxes** folder in the Catalog pane and expand the **Partnership BAS Tools Pro** toolbox. You should see four tools within.

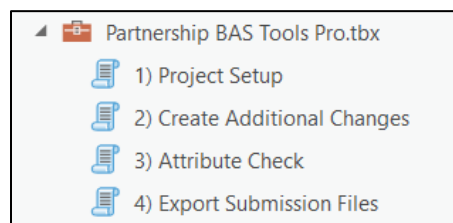


Figure 2: The Partnership BAS Tools Pro Toolbox

2.2 Prepare Local Data

Before any of the tools can be run to create changes for a legal government, there must be an attribute field in the local boundary shapefile that contains the name of the government or

governments as they appear in Census Bureau records (Figure 3 and Figure 4). This includes matching capitalization, spacing, and in the case of MCDs and AIAs a descriptor of the geography (e.g., township, village, borough, etc.). If it is a new government or the legal name is changing, it does not need to agree though other attribution must be updated to reflect this change. Please refer to Table 1 to see which feature class and field to use for each geography type.

FID *	ALPHA	new_name	Shape_Length
1	CONETOE	Conetoe	18798.2833
2	LEGGETT	Leggett	16515.9215
3	MACCLESFIELD	Macclesfield	16245.4801
4	PINETOPS	Pinetops	24335.0347
5	PRINCEVILLE	Princeville	51158.4595
6	ROCKY MOUNT	Rocky Mount	538948.7804
7	SHARPSBURG	Sharpsburg	38595.9219
8	SPEED	Speed	13134.1835
9	TARBORO	Tarboro	174112.0822

OBJE	NAME	STATEFP	COUNTYFP	PLACEFP
7	Conetoe	37	065	14200
8	Leggett	37	065	37640
3	Macclesfield	37	065	39960
5	Pinetops	37	065	52140
9	Princeville	37	065	53840
4	Rocky Mount	37	065	57500
1	Sharpsburg	37	065	61060
6	Speed	37	065	63720
10	Tarboro	37	065	66700

Figure 3. NAME Field in the Census Data vs Local Boundary Data

The bas_place layer on the right shows how the Census Bureau NAME field is populated for all the places in Edgecombe County, NC while the local places data on the left shows how local data may need to be manipulated to agree with the Census Bureau NAME field.

FID	Shape *	OBJECTID_1	OBJECTID	MUNICIPALI	MCN_CODE
28	Polygon	0	48	Adams township	010
3	Polygon	0	3	Allegheny township	020
9	Polygon	0	16	Brady township	030
31	Polygon	0	55	Buffalo township	040
20	Polygon	0	35	Butler township	050
15	Polygon	0	25	Center township	060
6	Polygon	0	11	Cherry township	070
10	Polygon	0	10	Clay township	080
22	Polygon	0	30	Clearfield township	090
30	Polygon	0	54	Clinton township	100

Shape *	STATEFP	COUNTYFP	COUSUBFP	NAMELSAD	COUSUBRS	LIS
Polygon	42	019	00300	Adams township	1216040	44
Polygon	42	003	00724	Aleppo township	1215797	44
Polygon	42	007	00820	Alequippa city	1214861	25
Polygon	42	121	00884	Allegheny township	1217138	44
Polygon	42	019	00860	Allegheny township	1216041	44
Polygon	42	007	02288	Ambridge borough	1214862	21
Polygon	42	005	02720	Apollo borough	1214844	21
Polygon	42	005	02752	Applewild borough	1214845	21
Polygon	42	031	03248	Ashland township	1216200	44
Polygon	42	003	03320	Aspinwall borough	1214763	21

Figure 4. Appropriate Attribution for MCD or AIANNH Changes

The bas_cousub attribution on the right in the NAMELSAD field shows how the local MUNICIPALI field on the left should be formatted to ensure that the Create Changes tool works for the MCD changes in Butler County, PA. The bas_aial attribution appears in a similar way.

Table 1: Feature Class Field Names Based on Geography Type

GEOGRAPHY TYPE	FEATURE CLASS	FIELD
Incorporated Place	bas_place	NAME
MCD	bas_cousub	NAMELSAD
County	bas_county	NAME
Tribal	bas_aial	NAMELSAD
Consolidated City	bas_concity	NAME

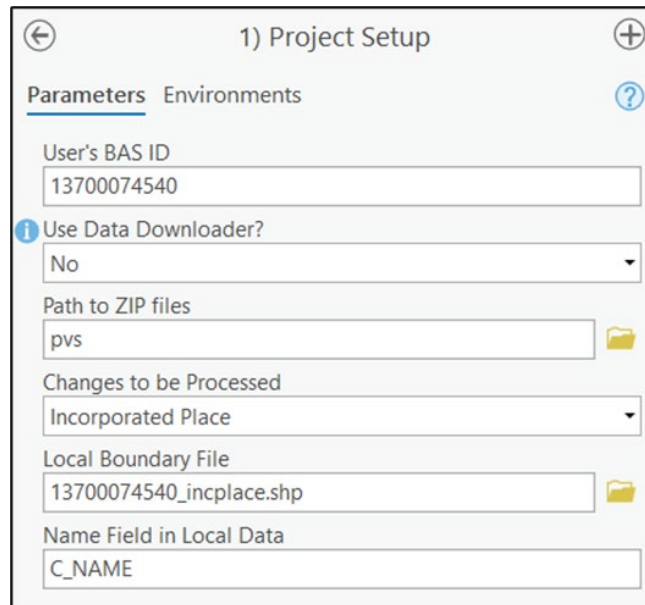
2.3 Project Setup Tool

The Project Setup tool gathers all the BAS partnership shapefile data needed to create changes from the Census Bureau website, creates an initial change file, and formats the map document (.mxd) for the given BAS ID. Before using this tool, review sections [2.3.1](#) through [2.3.2](#) for additional guidance.

2.3.1 Offline Use

There are two ways to use this tool: one that downloads the data from the Census Bureau for the user and one that takes in a folder with the Census Bureau data already downloaded. If you have already downloaded the data, you must unzip the downloaded pvs batch zip file (e.g., pvs_batch_from_<st>) to display the partnership shapefiles zip files (e.g., partnership_shapefiles_23v2_<st> and partnership_shapefiles_23v2_<stcou>). The tool will look for these partnership_shapefiles zip files when it runs.

To use previously downloaded Census Bureau data, select No under the **Use Data Downloader?** field and navigate or drag the folder into **Path to zip files field**. Make sure the folder only contains the Census Bureau zip files to ensure there are no future data issues. **Figure 5** shows how a user will complete the fields if they already have the partnership shapefiles downloaded and saved on their computer.



The screenshot shows a mobile application window titled "1) Project Setup". It has a back arrow on the top left and a plus sign on the top right. Below the title, there are two tabs: "Parameters" (which is selected and underlined) and "Environments". A help icon (?) is on the right. The form contains several fields: "User's BAS ID" with the value "13700074540"; "Use Data Downloader?" with a dropdown menu set to "No"; "Path to ZIP files" with the value "pvs" and a folder icon; "Changes to be Processed" with a dropdown menu set to "Incorporated Place"; "Local Boundary File" with the value "13700074540_incplace.shp" and a folder icon; and "Name Field in Local Data" with the value "C_NAME".

Figure 5. The Project Setup Window with 'No' in the Use Data Downloader Field

2.3.2 Change Types

The Project Setup tool and the Create Additional Changes tool allows the user to input a boundary file so that an initial set of changes can be created at the same time the Census Bureau data is being downloaded. We recommend using this opportunity to create changes for legal geographies. Examples of legal geographies are:

- Incorporated Place,
- County,
- County Subdivision (MCDs),
- Tribal, and
- Consolidated City.

If a user is not ready to create changes for a legal geography or does not have changes for a legal geography, the user can select the desired non-legal geography they wish to submit. This may include:

- CDP,
- Linear Features,
- Area Landmark, and
- Point Landmark.

If the user has more than one change type for which they want to create changes, users will run the Project Setup tool and then create additional change feature classes with the Create Additional Changes tool.

2.3.3 The Project Setup Tool

Please follow the steps below to run the Project Setup tool.

1. In the Partnership BAS Tools Pro toolbox, double click on the 1) Project Setup tool.

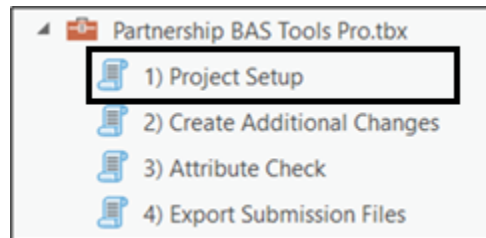


Figure 6. Partnership BAS Tools Pro Menu with Project Setup Selected

2. Enter the 11-digit BAS ID in the **BAS ID** field.
3. The **Use Data Downloader?** field, select how you would like to get your Census Bureau data:
 - a. To have the Census Bureau data downloaded automatically, select Yes under the **Use Data Downloader?** field then proceed to step 5.
 - b. To use previously downloaded Census Bureau data, select No under the **Use Data Downloader?** field then proceed to step 4.
4. The **Path to zip files** field will only take an input if No was selected earlier in the **Use Data Downloader?** field. Navigate or drag the folder into **Path to zip files** field. Make sure the folder only contains the Census Bureau zip files to ensure there are no future data issues. Refer to section [2.3.2](#) for more guidance.

Note: If you get an error message when trying to use the automatic download, please manually download the partnership files and try the tool that way. If an error still occurs, contact the Census Bureau using the format laid out in the [Contact Us](#) section.

5. Under **Changes Being Processed**, choose the type of changes to create from the dropdown options. Available inputs are listed in [Table 2](#). If a legal geography is selected proceed to step 6. If a non-legal geography is selected, proceed to step 8.

Table 2: Distinction Between the Types of Changes Allowed in the Project Setup Tool

LEGAL GEOGRAPHY	NON-LEGAL GEOGRAPHY
Incorporated Place	CDP
County Subdivision (MCDs)	Linear Features
County	Area Landmarks
Tribal	Point Landmarks
Consolidated City	

6. In the **Local Boundary File** field, enter the path or navigate to the full boundary polygon.
7. For the **Name Field in Local Data**, type the name of the field (as it appears in your local data in the Catalog pane) containing the information matching the Census Bureau’s NAME or NAMELSAD field as appropriate from section 2.2.
8. Once all fields are complete, select **OK**.

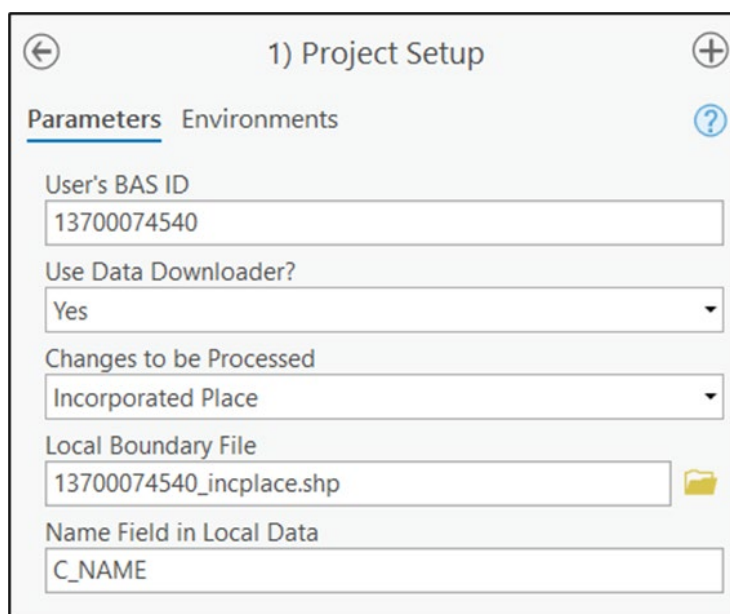


Figure 7. Project Setup Window for Legal Changes

Note: If a non-legal geography type was selected for Changes Being Processed, the last two fields will be blank and disabled. Please see section 2.4 for examples of what this looks like.

9. When this tool is complete, there should now be reference and changes feature classes in the project geodatabase (gdb), an archive folder inside the project folder, and a map in your project complete with reference data and your changes already formatted with suggested symbology.

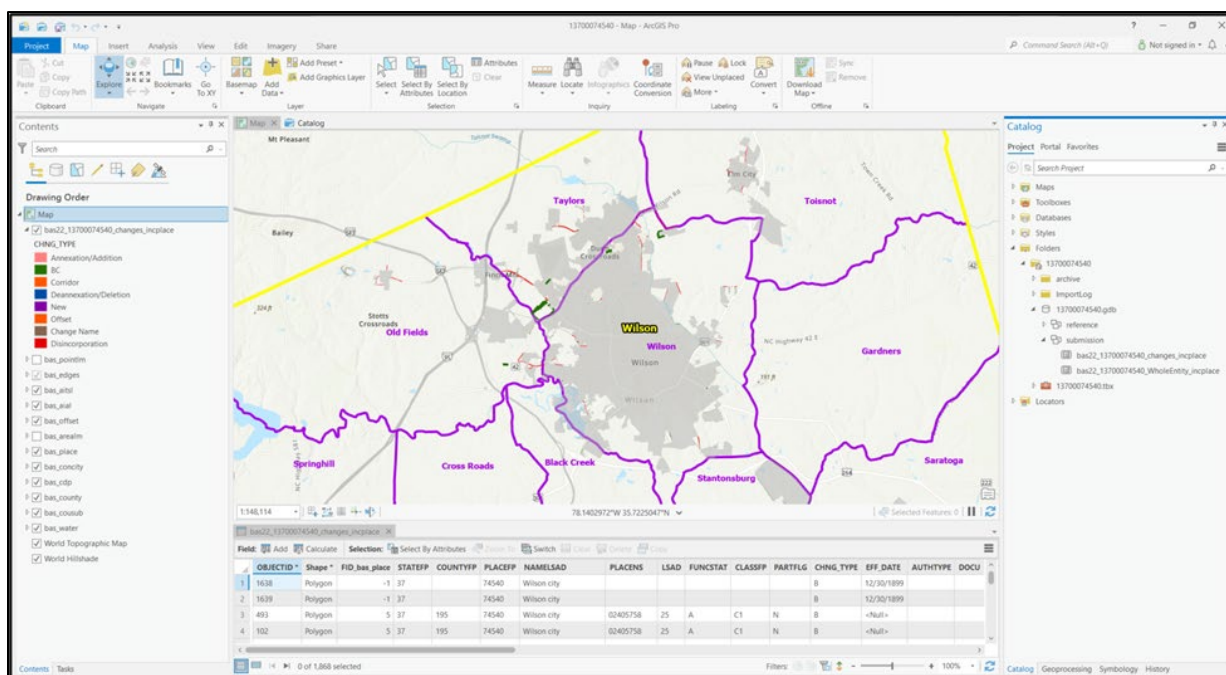


Figure 8. View of Project Once All Output is Created

Note: The archive folder contains other Census Bureau data that may be useful as well.

10. At this point, there are a few different options for next steps.
 - a. To create additional changes, proceed to section 2.4.
 - b. To begin reviewing your changes, proceed to Chapter 3.

2.4 Create Additional Changes Tool (Optional)

You can run the **2) Create Additional Changes tool** to create change files for additional levels of geography. If you only need changes for one level of geography and they were already made in the previous step, you may proceed to **Chapter 3**.

1. If you have not prepared your local data already, please refer to section 2.2 before proceeding to create legal changes. If you are using this tool to create changes for a non-legal geography, continue to step 2.
2. Double click on the **2) Create Additional Changes tool**.

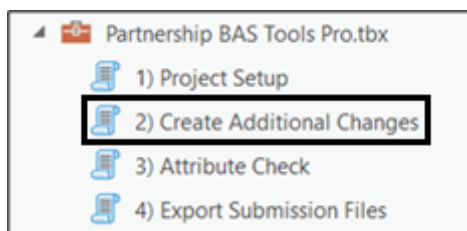


Figure 9. Partnership Tools Menu with Create Additional Changes Tool Selected

3. To create changes for legal geographies, in the **Create Additional Changes** window:
 - Enter the 11-digit BAS ID in the **BAS ID** field.

- Under **Changes Being Processed**, choose the type of changes to create from the dropdown options:
 - Incorporated Place.
 - County.
 - County Subdivision (MCDs).
 - Tribal.
 - Consolidated City.
- In the **Local Boundary File** field, enter the path or navigate to the full boundary polygon.
- For the **Name Field in Local Data**, type the name of the field (as it appears in the Catalog pane) containing the information matching the Census Bureau’s NAME or NAMELSAD field as appropriate from section [2.2](#).

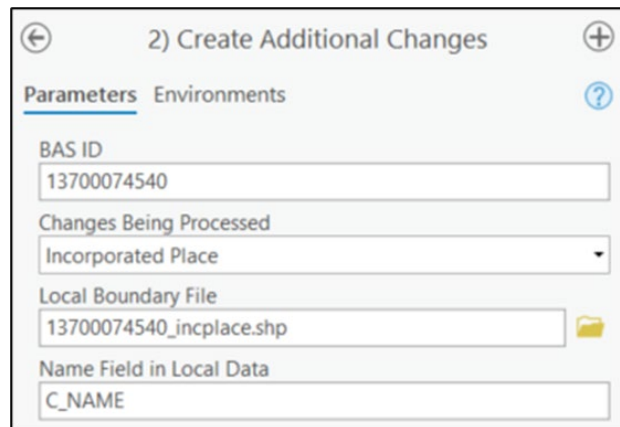


Figure 10: Create Additional Changes Window for Legal Changes

4. To create changes for any other geography, in the **Create Changes** window:
 - Enter the 11-digit BAS ID in the **BAS ID** field.
 - Under **Changes Being Processed**, choose the type of changes to create from the dropdown options:
 - CDP.
 - Linear Features.
 - Area Landmark.
 - Point Landmark.

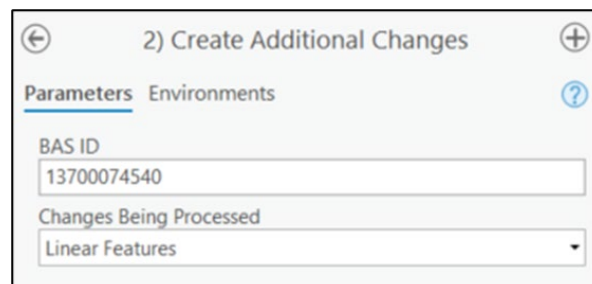


Figure 11. Create Additional Changes Window for Non-Legal Changes

5. Select **Run** to run the tool.

6. Once the tool is complete, the output will be placed in the geodatabase under the submission feature dataset.



Figure 12. Partnership Tools Menu with Geodatabase

7. Repeat steps for any other levels of geography that need changes created.

Note: The BAS year used in screenshots throughout this document may vary, however, functionality remains the same.

CHAPTER 3 REVIEWING AND EXPORTING A SUBMISSION

At this point in the process, a review of the created changes is necessary to ensure proper attribution is contained in each record. This chapter will discuss the types of changes you may want to update or remove from your submission based on current relationships within the Census Bureau data.

1. With editing enabled, open the attribute table for your changes layer(s) so you can go line by line through the requested changes.
2. Review each change polygon for any of the following potential issues:
 - Required attribution information (section [3.1](#))
 - Large boundary corrections (section [3.2](#))
 - Boundary-to-Feature Relationships (section [3.3](#))
 - Corridors and Offsets (section [3.4](#))

Note: As a reminder, the Census Bureau will snap boundary changes to any linear feature that is correctly located within thirty feet of the change. Additionally, changes that are less than 30 feet at their widest point may not be incorporated into the Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) System due to system constraints. Refer to the BAS Technical Guide www.census.gov/programs-surveys/bas/information/respondent-guides.html for more information.

3. Edit landmark, feature, and CDP changes as necessary (section [3.5](#)).
4. Save your edits to your change feature classes.
5. Export your submission and proceed to [Chapter 4](#).

3.1 Required Attribute Information

It is important to review each change polygon and confirm that the correct attribute information is included. Without the correct attribute information, the Census Bureau will be unable to process and incorporate the changes into the MAF/TIGER System.

1. All changes are coded as a “B” for Boundary Correction by the Create Changes tool. If you know there are legal changes in your file, navigate to the area the legal change is in and select the change polygon.
2. Update the required fields for the selected change polygon. Refer to [Table 3](#) for the required attributes that will need to be manually updated. [Table 4](#) lists the acceptable values for each required field or expected values for fields that do not take a specific Census Bureau code.
3. Once the attribution is updated, save the edits, move to the next change polygon, and repeat the process in steps 1 and 2.
4. Once the known legal changes are complete, review the rest of the changes using the guidance in sections [3.2](#), [3.3](#), and [3.4](#).

Table 3: Required Attribution by Update Type

UPDATE TYPE	CHNG_TYPE	NAME	EFF_DATE	AUTHTYPE	DOCU	AREA	RELATE
Annexation/ Addition	✓	✓	✓	✓	✓*	✓*	
Deannexation/ Deletion	✓	✓	✓	✓	✓*	✓*	
Boundary Correction	✓	✓					✓
Geographic Corridor	✓	✓					✓
Geographic Offset	✓	✓					✓
Disincorporation/ Remove Entity	✓	✓	✓	✓	✓		
New Incorporation/ Add Entity	✓	✓	✓	✓	✓		
Name Change	✓	✓	✓	✓	✓		

Note*: The AREA field is required for submissions in Georgia. The DOCU field is not required for submissions in Georgia.

Table 4: Acceptable Field Inputs for Changes Submitted to BAS

ATTRIBUTE FIELD	ATTRIBUTE FIELD DESCRIPTION	ALLOWABLE VALUE	ALLOWABLE VALUE DESCRIPTION
CHNG_TYPE	Type of Area Update	A	Annexation/Addition
CHNG_TYPE	Type of Area Update	D	Deannexation/Deletion
CHNG_TYPE	Type of Area Update	B	Boundary Correction
CHNG_TYPE	Type of Area Update	C	Geographic Corridor
CHNG_TYPE	Type of Area Update	F	Geographic Offset
CHNG_TYPE	Type of Area Update	X	Disincorporation/Remove Entity
CHNG_TYPE	Type of Area Update	E	New Incorporation/Add Entity
CHNG_TYPE	Type of Area Update	G	Name Change
EFF_DATE	Effective date of legal change	mm/dd/yyyy	Two-digit month, two-digit day, and four-digit year.

ATTRIBUTE FIELD	ATTRIBUTE FIELD DESCRIPTION	ALLOWABLE VALUE	ALLOWABLE VALUE DESCRIPTION
AUTHTYPE	Type of Authorization	O	Ordinance
AUTHTYPE	Type of Authorization	R	Resolution
AUTHTYPE	Type of Authorization	L	Local Law
AUTHTYPE	Type of Authorization	S	State Level Action
AUTHTYPE	Type of Authorization	E	Executive Order (Tribal Submissions Only)
AUTHTYPE	Type of Authorization	C	BIA Certification (Tribal Submissions Only)
AUTHTYPE	Type of Authorization	D	Deed (Tribal Submissions Only)
AUTHTYPE	Type of Authorization	X	Other
DOCU	Supporting documentation number	O-### R-###	Unique number or code assigned to the legal document; not required in the state of Georgia
AREA	Area of update in acres	##.#	Only required in the state of Georgia
RELATE	Relationship Description	IN	Area is added to the entity.
RELATE	Relationship Description	OUT	Area is removed from the entity.

3.2 Large Boundary Corrections

The Census Bureau will not accept large boundary corrections that substantially change the current boundary of a government without the appropriate legal documentation numbers and effective dates. These large boundary corrections ([Figure 13](#)) may be legal boundary changes that occurred in the past and were never reported to the Census Bureau.

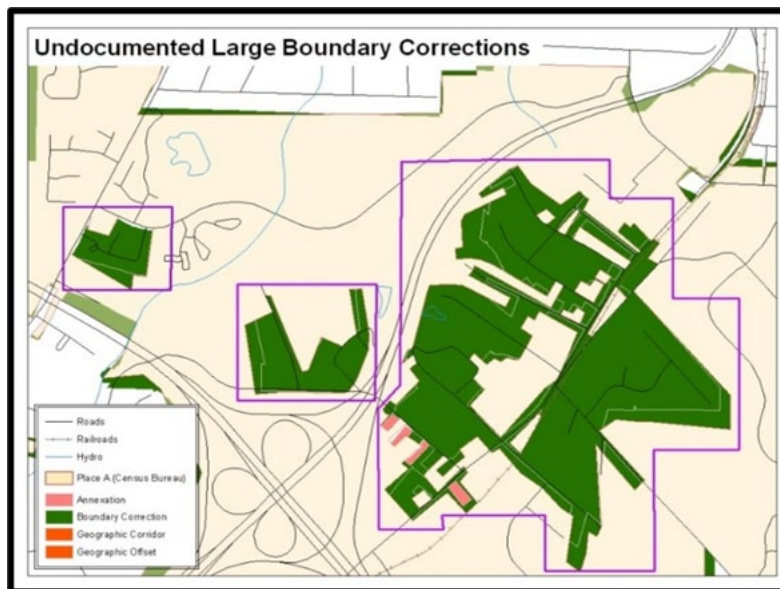


Figure 13. Large Boundary Corrections

Without the appropriate documentation, the Census Bureau will not accept large boundary corrections.

If you identify a large boundary correction that is a previous legal change, please do the following:

1. Submit the appropriate legal documentation number and effective date (no matter how old), so the changes may be incorporated into the MAF/TIGER System. Refer to [Table 3](#) and [Table 4](#) and to the steps in section [3.1](#) to fill out required attribution for legal changes.
2. If legal documentation cannot be provided for any reason, please [Contact Us](#) to discuss your submission options.

Note: There may be a few instances when large boundary corrections need to be made because of incorrect digitizing or where the boundary appears in the incorrect location due to other Census Bureau activities. If unsure how to proceed, [Contact Us](#) to discuss submission options.

3.3 Boundary to Feature Relationships

Please review all changes to ensure that the correct boundary-to-feature relationships are being created or maintained. The Census Bureau is aware that many governments base their legal boundaries on cadastral (parcel-based) right-of-way mapping; however, the Census Bureau bases maps on spatial data that is topologically integrated (see the BAS Technical Guide <www.census.gov/programs-surveys/bas/information/respondent-guides.html>). This helps establish a more accurate population count for governments.

The Census Bureau will not accept boundary corrections that dissolve the current relationship between an existing boundary and linear feature without specific instruction that the relationship is incorrect. The Census Bureau will not incorporate any boundary corrections that create a 30-foot, or less, gap or overlap between the existing linear feature and boundary into the MAF/TIGER System. [Figure 14](#) shows an example of changes that will not be accepted.

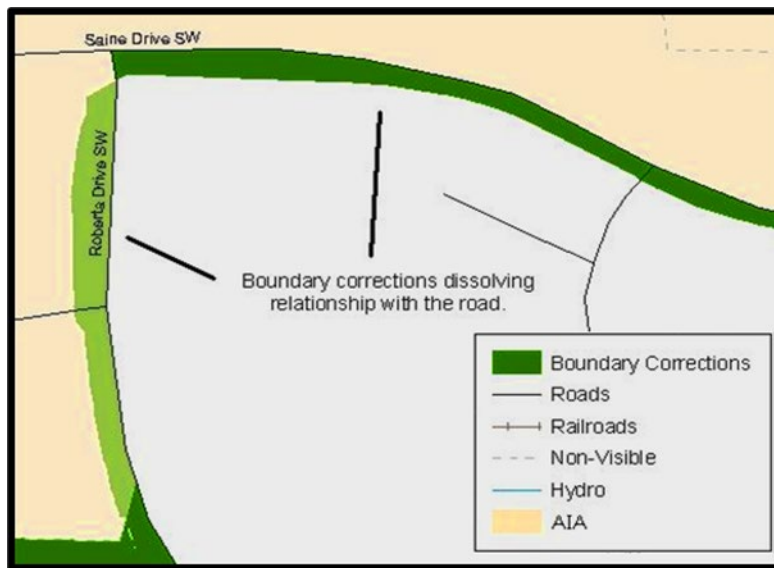


Figure 14. Small Spatial Corrections Not Accepted

Small spatial boundary corrections (<30ft) would dissolve the boundary to feature relationship with multiple streets. Incorporating these changes would affect the population counts for the area. Therefore, the Census Bureau will not accept these small boundary corrections.

If there are changes in your submission that would remove boundary-to-feature relationships, use the following information to determine if the change should be kept or deleted from the submission:

1. Changes that are based on cadastral data and are not legally required to accurately display the boundary can be deleted from the submission.
2. If the change is along a roadway and must be incorporated, please consider marking it as an offset or corridor. Refer to section 3.4 to learn how to add corridors and offsets.
3. If the feature is incorrectly located, the change can remain in the submission. Please note the incorrect feature in the **JUSTIFY** field.

3.4 Corridors and Offsets

The Census Bureau does not require places and AIAs to report rights-of-way. Geographic corridors are not essential to the mission of the Census Bureau and the right-of-way should only be included if it is crucial to the place or AIA, or if state or local laws require it. For more information on appropriate uses of corridors and offsets, refer to the BAS Technical Guide <www.census.gov/programs-surveys/bas/information/respondent-guides.html>.

To add a corridor or offset to your submission:

1. Navigate to the change polygon and select it.
2. Using the Attribute table or the Attribute Window, change the **CHNG_TYPE** to the appropriate value. For a corridor set it to C and for an Offset set it to F.
3. If this change is due to legal action, provide the **AUTHTYPE**, **DOCU**, **EFF_DATE**, and **AREA** as appropriate as well. Information on these required fields can be found in section 3.1.

3.5 CDP, Linear Feature, and Landmark Changes

CDPs, linear features, area landmarks (e.g., lakes), and point landmarks (e.g., mountain peaks) can be updated through BAS, but they are not required. The Census Bureau accepts updates to these areas in a similar manner to legal boundary changes. However, since they are not legal governments, no documentation or effective dates are required.

3.5.1 CDP Changes

To create changes to CDPs, make sure you have already run the **2) Create Additional Changes** tool with CDP selected. That tool creates an empty feature class called **bas<yy>_<BAS ID>_changes_cdp**.

Each CDP update must have the required attributes and corresponding change type populated (refer to [Table 5](#)). The steps below document how to properly update your CDP layer.

Table 5: Required Attribution for CDP Changes

UPDATE TYPE	CHNG_TYPE VALUE	CHNG_TYPE	NAME	RELATE
Boundary Correction	B	✓	✓	✓
Delete CDP	X	✓	✓	
New CDP	E	✓	✓	
Name Change	G	✓	✓	

Note: The checkmark (✓) in the table denotes a required field for the four types of CDP changes.

1. Depending on your ArcGIS Pro settings, you will need to ensure you can edit the preferred feature class. On the Edit Tab, select the Create Button in the Features Group. Navigate to the area where you would like to modify, add, or remove a CDP. Make sure the **Create Features** pane is open as it should list all the appropriate types of CDP edits you may want to make.

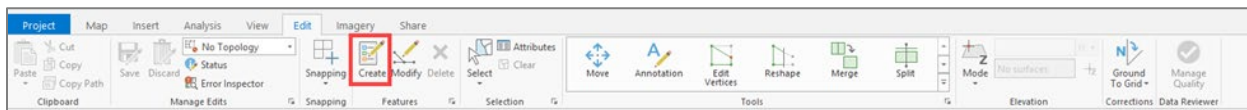


Figure 15. The Ribbon with the Create Features Button Highlighted

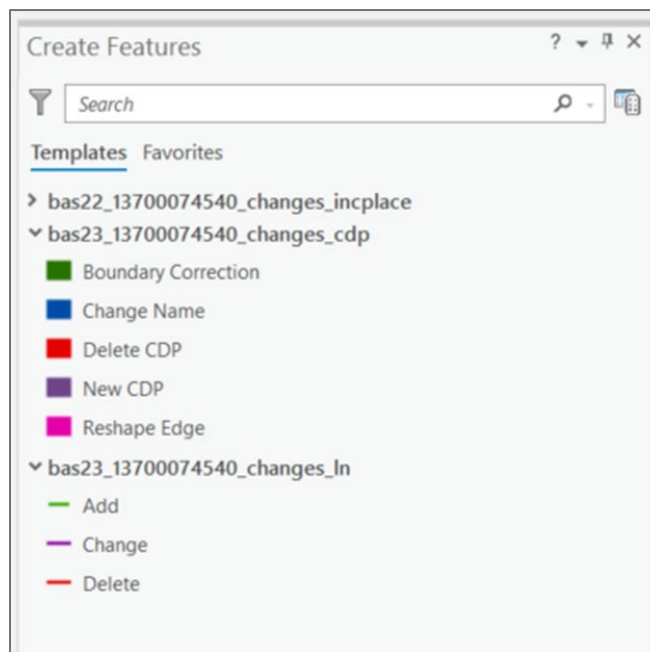


Figure 16. The Create Features Pane in ArcGIS Pro

2. To modify a CDP's shape, you will use the built in editing tools to draw the difference between the boundaries as you would like it to appear. Select the **BC (Boundary Correction)** template for these changes and draw the areas that should be added or removed from the CDP. Once the polygon is complete, update the following fields in the attribute table:
 - a. Enter the feature name in the **NAME** field. If you are not sure of the name, you can use the identify tool to get the name from the bas_cdp layer.
 - b. Fill out the **RELATE** field to designate if the area is being added (IN) or removed (OUT) from the CDP.
 - c. Make sure the **CHNG_TYPE** field has the appropriate designator (B). If it does not, change it to B.

Note: In order to paste data into a specific data layer, you must use the **Paste Special** option in the **Edit** tab. This allows you to select a visible layer to paste into, otherwise it will paste the data into the same layer it was copied from.

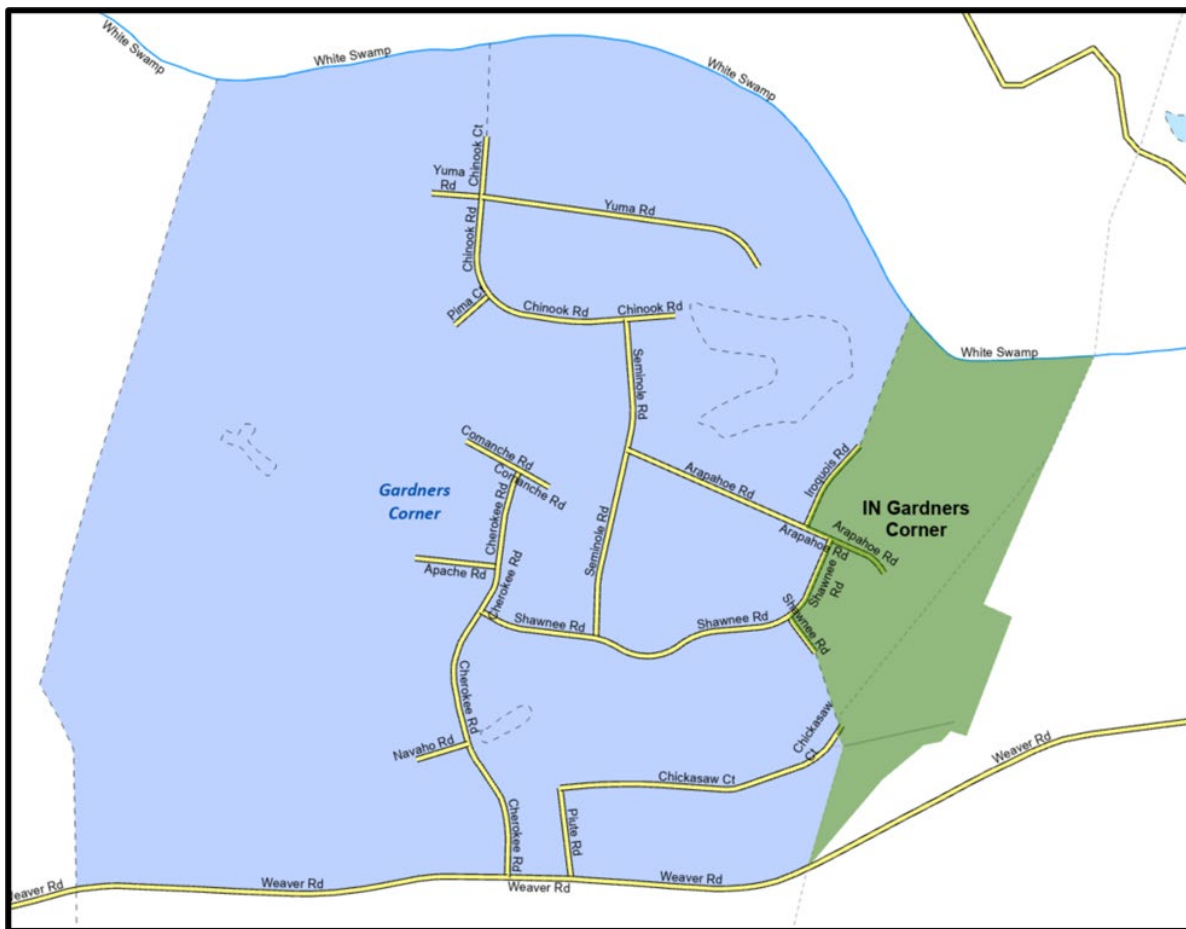


Figure 17. Boundary Correction to Gardners Corner CDP

3. To modify the name of an existing CDP:
 - a. Select the CDP from the bas_cdp layer. Copy and paste it into the bas<yy>_<BAS ID>_changes_cdp layer.
 - b. Begin editing the attributes for the pasted change. Enter a 'G' in the **CHNG_TYPE** field and enter the new name in the **NAME** field.
4. To add a CDP, use the built in ArcGIS Pro editing tools to draw the new boundaries as you would like it to appear, using the New CDP template. Once the polygon is complete, make sure to update the following fields in the attribute table:
 - a. Enter the new name in the **NAME** field.
 - b. Make sure the **CHNG_TYPE** field has the appropriate designator (E). If it doesn't, change it to 'E.'
5. To mark a CDP for deletion from Census Bureau data:
 - a. Select the CDP from the bas_cdp layer. Copy and paste it into the bas<yy>_<BAS ID>_changes_cdp layer.
 - b. Begin editing the attributes for the pasted change. Enter an 'X' in the **CHNG_TYPE** field.

3.5.2 Linear Feature Changes

The Census Bureau will accept linear feature modifications when needed. If you have linear feature changes to submit, make sure you have already run the **2) Create Additional Changes** tool with Linear Features selected. That tool creates an empty feature class called

bas<yy>_<BAS ID>_In_changes. There are multiple valid approaches to populating this layer with appropriate change data. Since these would include potential updates to local data sources, we cannot say which would be most appropriate for each individual user.

Each linear feature update must have the required attributes and corresponding change type populated (refer to **Table 6**). If the correct attribution is not provided, the Census Bureau will not make the correction for this BAS cycle. The steps below document how to properly update your linear feature layer.

Table 6: Required Attribution for Linear Feature Updates

UPDATE TYPE	CHNG_TYPE VALUE	CHNG_TYPE	TLID	FULLNAME	MTFCC	LTOADD	RTOADD	LFROMADD	RFROMADD
Add Feature	AL	✓		✓	✓	✓	✓	✓	✓
Delete Feature	DL	✓	✓						
Rename Feature	CA	✓	✓	✓					
Recode Feature	CA	✓	✓		✓				

Note: The checkmark (✓) in the table denotes required fields for the linear feature update types. The address related fields (e.g., LTOADD, RTOADD, LFROMADD, and RFROMADD) are requested (not required) for Add Feature records.

1. Some possible methods for adding lines include:
 - Load the data (with or without a query) into the changes feature class so that individual fields can be mapped into the Census Bureau requested schema.
 - Trace the local data source or create streets from imagery using the appropriate **bas<yy>_<basid>_In_changes** template to create new records.
 - Copy and paste data from the local streets data source.
2. For adding linear features, modify the attribution for the features using your preferred editing method:
 - Enter 'AL' in the **CHNG_TYPE** field (if it is not already populated) and enter the appropriate MTFCC in the **MTFCC** field. If the feature has a name, enter the name in the **FULLNAME** field.
 - If this is a new street (MTFCC starts with S), you must provide the name of the street in the **FULLNAME** field and you may also provide Address Ranges (**LTOADD**, **RTOADD**, **LFROMADD**, and **RFROMADD**).
3. To modify or delete lines, copy and paste the records from the **bas_edges** feature class you want to change. By doing this you preserve the TIGER/Line ID (TLID) in the **TLID** field to ensure the correct features are affected.

4. If a feature that does not exist is in the Census Bureau’s feature network, mark the feature for deletion by entering ‘DL’ in the **CHNG_TYPE** field.
5. If a feature is in the incorrect location in the Census Bureau’s feature network, mark the feature for deletion and re-add it in the correct location using the steps laid out above. Only do this if the feature is very far off or is in the wrong position relative to boundaries or other features.
6. If a feature has an incorrect name and/or MTFCC, enter ‘CA’ in the **CHNG_TYPE** field. Populate the correct MTFCC in **MTFCC** and/or the correct name in **FULLNAME**.

Note: A list of MTFCCs can be found at
www.census.gov/library/reference/code-lists/mt-feature-class-codes.html.

3.5.3 Area Landmark, Hydrographic Area, and Point Landmark Updates

Area landmarks, hydrographic areas (e.g., lakes), and point landmarks (e.g., mountain peaks) can be updated through BAS, but are not required. Hydrographic area changes should be included in the area landmark changes file so for this section the term “area landmark” includes hydrographic updates. Landmark updates that are accepted through BAS are listed in [Table 7](#). For more guidance on MTFCCs, acceptable values, and how they are used, please visit www.census.gov/library/reference/code-lists/mt-feature-class-codes.html.

Table 7: Examples of Acceptable Landmark Updates

AREA LANDMARKS	AREA OR POINT LANDMARKS	POINT LANDMARKS
Water bodies	Airports	Mountain peaks or summits
Swamps	Parks	Libraries
Quarries	Schools	City halls
Forests	Golf courses	Community centers
	Museums	Police stations
	Cemeteries	

It is important to note that the Census Bureau cannot delete or modify any point landmarks imported from the United States Geological Survey’s Geographic Names Information System database (USGS GNIS). Therefore, changes submitted for the following types of landmarks may be left unchanged even though they are acceptable updates:

- K2451 (Airport).
- K2582 (Cemetery).
- C3022 (Summit or Pillar).
- C3081 (Locale or Populated Place).
- C3061 (Cul-de-sacs).

In order to submit updates, make sure you have run the **2) Create Additional Changes** tool with Point Landmark or Area Landmark selected as described in section 2.4 for each type of change you want to submit. That tool creates an empty feature class called **bas<yy>_<BAS ID>_pointlm_changes** or **bas<yy>_<BAS ID>_arealm_changes** based on the requested input. The types of updates that can be submitted for point and area landmarks are in **Table 8**.

Table 8: Acceptable Landmark Updates

UPDATE TYPE	AREA LANDMARK (arealm_changes)	POINT LANDMARK (pointlm_changes)
Boundary Correction (adding and removing area)	✓	
Create New	✓	✓
Remove	✓	✓
Name Change	✓	✓

Each area landmark or hydrographic area update must have the required attributes and corresponding change type populated (refer to **Table 9**). The steps below document how to properly update your point and area landmark changes layer(s).

Table 9: Required Attribution for Point Landmark, Area Landmark, and Hydrographic Area Updates

UPDATE TYPE	CHNG_TYPE VALUE	CHNG_TYPE	FULLNAME	RELATE	MTFCC	AREAID/POINTID
Boundary Correction (Area landmarks only)	B	✓	✓	✓		✓
Delete Landmark	X	✓				✓
Change Landmark Name	G	✓	✓			✓
New Landmark	E	✓	✓		✓	

Note: The checkmark (✓) denotes required fields.

1. To modify the shape of an area landmark, create the change polygons using the built in ArcGIS Pro editing tools in the **Create Features** pane. This pane should list all the appropriate types of landmark edits you may want to make. Select the Boundary Correction template for these changes and draw the areas that should be added or removed from the landmark.
2. Once you have completed the change polygon, modify the attribution for the features using your preferred editing method:
 - a. Enter the feature name in the **FULLNAME** field. If you're not sure of the name, you can use the identify tool to get the name from the bas_arealm and/or bas_water layer.

- b. Fill out the **RELATE** field to designate if the area is being added (IN) or removed (OUT) from the area landmark.
 - c. Make sure the **CHNG_TYPE** field has the appropriate designator (B). If it doesn't, change it to 'B.'
3. To add new features, use the built in ArcGIS Pro editing tools to create new point/area landmarks or to copy/paste landmarks from another data source.
 - a. Enter the name of the new feature in the **FULLNAME** field.
 - b. Enter an MTFCC in the **MTFCC** field. The acceptable MTFCC codes for new landmarks are listed at <www.census.gov/library/reference/code-lists/mt-feature-class-codes.html>.
 - c. Make sure the **CHNG_TYPE** field has the appropriate designator (E). If it doesn't, change it to 'E.'

Note: When adding new area landmarks, please only add the following types of areas: water bodies, glaciers, airports, cemeteries, golf courses, and parks. The Census Bureau cannot add other types of areas at this time (although some may already exist in the MAF/TIGER System). If adding a MTFCC K2457 (Airport – Area Representation) area landmark, please limit the updates to major airports (major regional and international airports). The feature should show the full extent of the airport facility, that is, do not limit the addition to simply the landing strip.

4. To mark any type of landmark for deletion from Census Bureau data, copy and paste the records from the bas_arealm, bas_pointlm, or bas_water feature class that you want to remove into the appropriate changes feature class. Edit the **CHNG_TYPE** field so that they are marked with an 'X.'
5. To modify the location of a point landmark, mark the feature for deletion and re-add it in the correct location using the steps laid out above. Only do this if the feature is very far off or in the wrong position relative to boundaries or other features.
6. If a landmark has an incorrect name and/or MTFCC, copy and paste the records from the bas_arealm, bas_pointlm, or bas_water feature class that you want to remove into the appropriate changes feature class. Enter 'G' in the **CHNG_TYPE** field. Populate the correct MTFCC in **MTFCC** and/or the correct name in **FULLNAME**.

3.6 Attribute Check Tool

This tool is used to verify that there are no inconsistencies with the data included in the submission. Run this tool during or after change polygons have been reviewed for spatial accuracy to produce a report of attribution errors. It may also run for all levels of geography that have changes since it is run on each individual change file.

1. Double click on the **3) Attribute Check** tool.

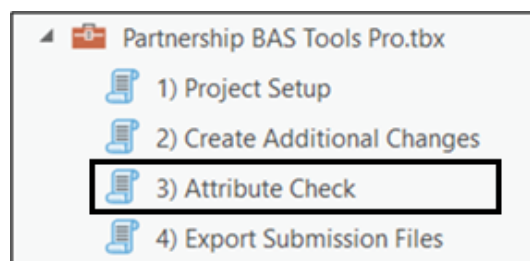


Figure 18. Partnership Tools Menu with Attribute Check Selected

2. In the **Attribute Check** window:
 - a. The **Change File** should be the change file located within the submission feature dataset for which to generate a report.
 - b. In **Geography Type**, choose the type of geography being worked on from the dropdown. The same options as the Create Changes tool are available here.
3. The last input is the optional check box for 'Includes Changes in Georgia'. This box only needs to be checked if responding in the state of Georgia.

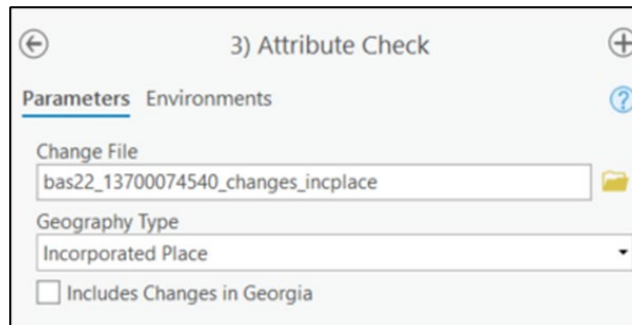


Figure 19. Attribute Check Window

4. Select **OK** to run the tool.
5. There should now be a text file in the working folder called **<geogtype>_errors.csv** containing all the discrepancies identified in the change file that still need to be fixed.

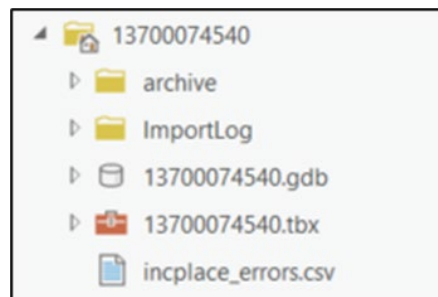


Figure 20. Project Folder Showing an Attribute Check Error CSV

6. Correct any attribution errors identified in the error file. Use the tables in the above sections to assist in correcting those errors.

3.7 Export Submission Tool

Upon review of the changes file and the attribute error report, the finalized changes may be exported for submission to the Census Bureau. This tool can also be used to provide updated contact information with the submission.

Note: This tool does not submit the changes, it just makes a file for submission. Please follow steps listed in [Chapter 4](#) to submit the changes through the Secure Web Incoming Module (SWIM).

1. Double click on the **4) Export Submission Files** tool.

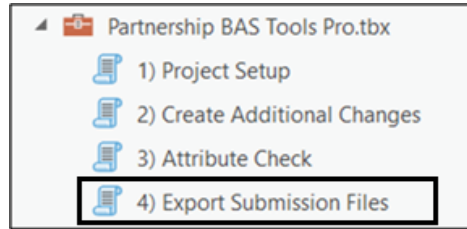


Figure 21. Partnership Tools Menu with Export Submission Files Selected

2. In the Export Submission Files tool window:
 - a. Enter the 11-digit BAS ID into the **BAS ID** field.
 - b. Parcel data can be included as supplemental information in the **Parcels** field. This is an optional field so it can also be left blank.
 - c. Under **Additional Files**, drag in or navigate to any additional files to be included in the submission. This can include streets data, maps, legal documentation, or any other helpful supporting data. This is an optional field so it can also be left blank. There is no need to add the changes layers here as the tool will handle those already based on the BAS ID.
 - d. For **BAS Contact, Entity Name, Contact Title or Department Name, Address, Email,** and **Phone Number**, please include any or all contact information updates that are to be sent to the Census Bureau. These fields can be left blank if there are no updates, though if someone other than the BAS Contact prepared the submission, include the contact information.

A screenshot of the "4) Export Submission Files" tool window. The window has a title bar with a back arrow on the left and a plus sign on the right. Below the title bar are two tabs: "Parameters" (selected) and "Environments". A help icon (?) is in the top right corner. The form contains several input fields:

- BAS ID:** 13700074540
- Parcels:** wilson_parcels.shp (with a folder icon)
- Additional Files:** C:\Data\ORD 23-01.pdf (with a folder icon)
- BAS Contact:** John Doe
- Entity Name:** Wilson
- Contact Title or Department Name:** GIS Manager
- Address:** 123 Main St Wilson NC 99999
- Email:** gis@city.gov
- Phone Number:** (123) 456-7890

Figure 22. Export Submission Files Window

3. Select **OK** to run the tool.
4. When the tool completes, a new browser window will open and load the SWIM webpage. The zip file with your submission will be located inside the BAS ID folder and named **BAS<yy>_<BASID>_return.zip**.

CHAPTER 4 SUBMIT CHANGES TO THE CENSUS BUREAU

All participants must use the Secure Web Incoming Module (SWIM) to submit their changes to the Census Bureau. Due to security requirements, the Census Bureau cannot accept submissions via File Transfer Protocol, email, or any protocol other than the SWIM site.

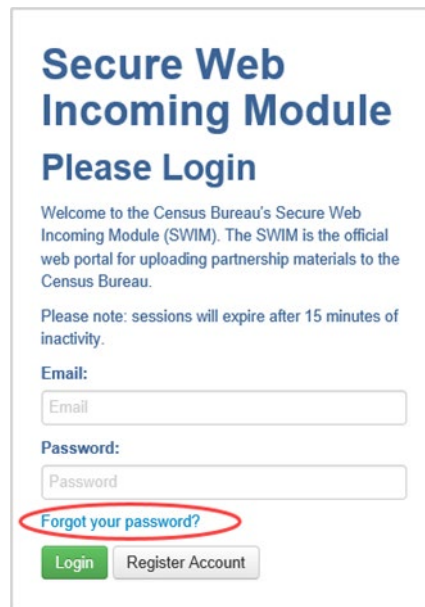
To upload and transmit update files to the Census Bureau, participants must access their accounts for SWIM.

1. Open a web browser window and enter the SWIM URL: <<https://respond.census.gov/swim/>>. SWIM runs on the two most recent versions of each of these major browsers:
 - Microsoft Edge®
 - Google Chrome®
 - Mozilla Firefox®
 - Apple Safari®
2. Participants who already have a SWIM account should proceed to step 4 to log in.
3. Participants who do not have a SWIM account should choose 'Register Account':
 - Enter the 12-digit token provided by the Census Bureau.
 - Create a password following the criteria below:
 - Username and password are case-sensitive.
 - It must be at least eight characters in length.
 - It must have at least one uppercase character.
 - It must have at least one lowercase character.
 - It must have at least one number.
 - It must have at least one special character (valid characters are #, !, \$, &, ?, and ~).
 - Complete the registration information form.
4. Log in to SWIM using your email address and password.
5. Upload a BAS submission:
 - Select the **Start New Upload** button.
 - Select the **BAS** radio button.
 - Select the **Entity** type (State, Place, County, MCD, Tribal Area, or Consolidated City).
 - Select the State and County.
 - Select the **+Add File** button.
 - Select the **.zip file** to upload.
 - Double-click on the **.zip file** to upload. Add additional .zip files in the same manner.
 - Add any additional information to the **Comments** field.
6. Select **Next**. A '**Thank You**' screen will appear.
7. Logout of SWIM.

4.1 Troubleshooting SWIM

If you are having trouble accessing your SWIM account, here are some tips for using SWIM:

- SWIM email addresses and password are case-sensitive.
- If you forgot your password, participants may reset their password using the “Forgot your password?” link on the login page. Follow the prompts to enter the case-sensitive email address and provide the security answer. If the security answer is correct, the SWIM system sends a password reset link to the email account for use in resetting the password. Once logged into SWIM, users can modify their password and security answer by selecting the ‘Change Security’ link at the top, right-hand side of the page.



The screenshot shows the SWIM login interface. At the top, it says "Secure Web Incoming Module Please Login". Below that is a welcome message: "Welcome to the Census Bureau's Secure Web Incoming Module (SWIM). The SWIM is the official web portal for uploading partnership materials to the Census Bureau." A note states: "Please note: sessions will expire after 15 minutes of inactivity." There are two input fields: "Email:" and "Password:". Below the password field is a link that says "Forgot your password?", which is circled in red. At the bottom, there are two buttons: "Login" (green) and "Register Account" (grey).

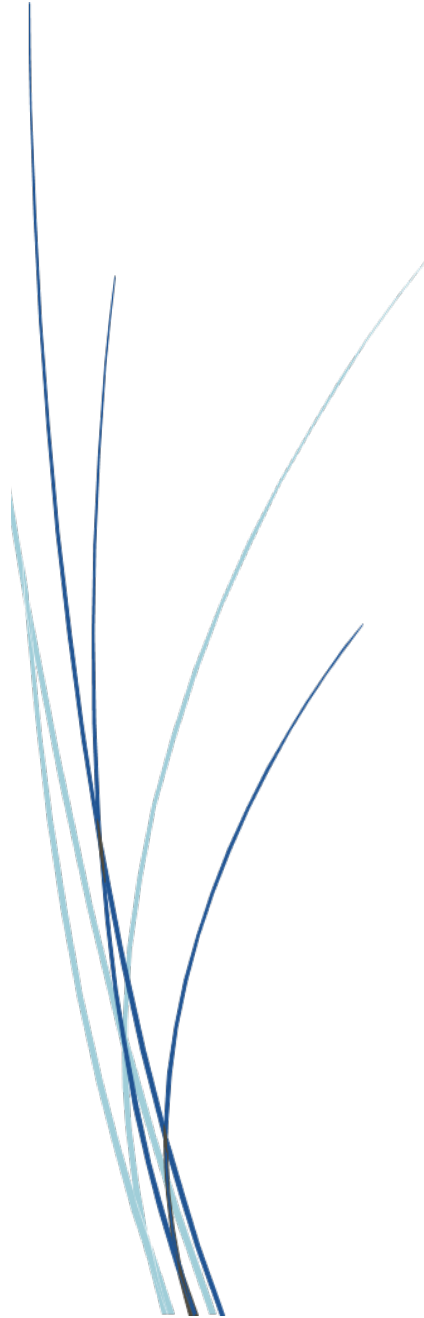
Figure 23. SWIM Login Screen and Password Reset Link

- If you cannot recover your password through the “Forgot your Password?” menus, please email geo.bas@census.gov with the subject line “SWIM Account Assistance” with a brief description of the issue.
- SWIM accounts are specific to users, not to your government so we do not advise sharing an account. You may always request another account for a new BAS Contact.
- If you already created an account through another program such as PSAP, LUCA, or GSS, you do not need another account. You may use the same previously established login information.

Boundary and Annexation Survey Partnership Toolbox How-to Guide

*Instructions for Participating the Boundary and Annexation Survey Using the Partnership
Toolbox for ArcGIS Desktop*

January 2024



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INTRODUCTION

A. The Boundary and Annexation Survey

The Boundary and Annexation Survey (BAS) provides tribal, state, and local governments an opportunity to review the Census Bureau’s legal boundary data to ensure the Census Bureau has the correct boundary, name, and status information. BAS also allows participants to review and provide updates to census designated places (CDPs). Maintaining correct boundaries helps ensure that the Census Bureau assigns the appropriate housing and population counts to each government. Title 13, Section 6, United States Code authorizes this survey.

BAS fulfills the agency’s responsibility as part of the National Spatial Data Infrastructure, for which the Office of Management and Budget (OMB) Circular A–16 designates the Census Bureau as the lead federal agency for maintaining national data about legal government boundaries, as well as administrative and statistical boundaries. BAS supports the geospatial data steward responsibilities of the Geospatial Data Act, the Evidence Act, OMB E-Gov, the Federal Geographic Data Committee, Data.gov, GeoPlatform.gov, the National Map, the Geographic Names Information System, and the Geospatial One-Stop.

The Census Bureau uses the boundaries collected in BAS to tabulate data for various censuses and surveys including the decennial census, American Community Survey (ACS), and Population Estimates Program (PEP). It also uses the legal boundaries collected through BAS to support several other programs such as Congressional and State Legislative redistricting, the Economic Census, the Geographic Update Population Certification Program, and the Special Census program.

B. Key Dates for BAS Respondents

- | | |
|------------------|---|
| January 1 | Boundary updates must be legally in effect on or before this date to be reported in the current survey year. |
| March 1 | First BAS deadline - Boundary updates returned by this date will be reflected in the ACS and PEP data and in next year’s BAS materials. |
| May 31 | Final BAS deadline - Boundary updates returned by this date will be reflected in next year’s BAS materials. |

C. Adjacencies and Legal Disputes

The Census Bureau will not make any boundary change that affects adjacent legal governments without the appropriate documentation. Please review any changes that affect adjacent governments to determine if they are intentional legal changes. If the Census Bureau discovers that an area of land is in dispute between two or more jurisdictions, the Census Bureau will not make any boundary corrections until the parties come to a written agreement, or there is a documented final court decision regarding the dispute.

To learn more, please contact the Census Bureau Legal Office at **1-301-763-2918**.

For disputes involving tribal areas, the Census Bureau must defer to the Office of the Solicitor at the Department of the Interior for a legal opinion. Often complicated land issues require an extended period for resolution, and in those cases, the Census Bureau will retain the current boundary in the database until a legal opinion is issued by the Solicitor's office.

D. Contact Us

If assistance is required in preparing your BAS submission or if you are experiencing issues with the ArcGIS Partnership toolbox, please contact the Census Bureau at [<geo.bas@census.gov>](mailto:geo.bas@census.gov) or **1-800-972-5651**.

When emailing [<geo.bas@census.gov>](mailto:geo.bas@census.gov), please include the following details:

- BAS ID and Government Name,
- Level of geography for which you are submitting,
- Contact information such as a phone number or email address,
- Version of ArcGIS you are using,
- Full text of the error message received as a screenshot or text (if applicable), and
- Screenshots of discrepancies (if applicable).

E. Resources

Additional resources are available on our website. Technical documentation and helpful videos are also available to walk through the BAS submission process.

Technical Documentation

For more technical information about Census Bureau Geography, BAS Submission information, change types, and shapefiles, see the BAS Technical Guide at [<www.census.gov/programs-surveys/bas/information/respondent-guides.html>](http://www.census.gov/programs-surveys/bas/information/respondent-guides.html).

Videos

The Census Bureau created training videos to give BAS participants detailed instructions and information on how to report and submit BAS changes. These videos are available on the BAS website at: [<www.census.gov/programs-surveys/bas/library/bas-videos.html>](http://www.census.gov/programs-surveys/bas/library/bas-videos.html).

CHAPTER 1 GETTING STARTED WITH THE PARTNERSHIP TOOLBOX

The Digital BAS Partnership Toolbox was created to ease the burden of creating change files on BAS and Tribal BAS participants. This toolbox simplifies the update process by automating the download of data, change creation, sliver removal, attribution formatting and checks, and exporting files for submission. This allows the Census Bureau to easily process returned BAS files. New tools have been added as of the 2022 BAS to facilitate the update of linear features, landmarks, and census designated places (CDPs). This how-to guide will walk participants through all the above steps to create their digital submission.

1.1 ArcGIS Deprecation

Due to Esri's deprecation of the ArcGIS Desktop suite, there will be limited support for these tools, and they will be phased out after the 2024 BAS. A separate toolbox is available for ArcGIS Pro 2.9 and higher and can be found at

www.census.gov/programs-surveys/bas/information/response-methods.html.

1.2 Submission Requirements

Participation in the current BAS cycle means that participants will provide the following:

1. A shapefile of boundary change polygons based off the current Census Bureau boundary. Submissions containing only a whole entity boundary shapefile of the current local data will not be accepted.
2. Legal documentation numbers, authorization types, and effective dates for all legal boundary changes (annexations and deannexations).
3. For tribal submissions, digital copies of the legal documentation to submit with the change polygons. Acceptable documents include but are not limited to a federal register notice, acceptance of conveyance and warranty deed, title status report, BIA certification or letter.
4. Each non-legal boundary correction with proper attribution according to boundary corrections guidelines laid out in [Chapter 3](#). If the correct attribution is not provided, the Census Bureau will not make the correction for this BAS cycle.
5. Current information for the BAS point of contact, the person updating the shapefiles, and the Highest Elected Official (HEO) or Tribal Chair (TC) for the government.

The BAS Partnership Toolbox simplifies the process for all the above requirements.

1.3 Partnership Toolbox Requirements

Before running these tools, users will need the following:

- **ArcGIS Desktop 10.0** or higher (not ArcGIS Pro).
- The **BAS Partnership Toolbox zip**, which can be downloaded at: www.census.gov/programs-surveys/bas/geographies/map-tools/arcmap-tools.html.
- The **BAS ID** for the government being processed. This can be found on the BAS Annual Response email, letter, or online at: www.census.gov/programs-surveys/bas/technical-documentation/code-lists.html.

- **A shapefile or feature class showing the legal boundary of the government.**
 - Data in this layer should include the name of the government being processed formatted to agree with the Census Bureau’s naming convention for the same government as found in the NAME field or the NAMELSAD field for Minor Civil Division (MCD) and American Indian / Alaska Native / Native Hawaiian (AIANNH).
- **Digital copies of the legal documentation** to be submitted with the change polygons. This is required for tribal submissions and requested for all other submissions.
 - For tribal changes: acceptable documents include, but are not limited to, a federal register notice, acceptance of conveyance and warranty deed, title status report, or BIA certification or letter.
 - For all other changes (optional): acceptable documents include, but are not limited to, ordinances, resolutions, changes to a local or state law, or court rulings.
- **(Optional) The 2024 BAS Partnership Shapefiles**, which may be downloaded manually from the Census Bureau website. These files are located at:
<www.census.gov/geographies/mapping-files/2024/geo/bas/2024-bas-shapefiles.html>.
 - The shapefile download is automated in the Partnership Toolbox, but in instances where downloads are restricted or internet connectivity is limited, participants may find that pre-downloading these files is simpler and faster.

CHAPTER 2 CREATING A SUBMISSION

This chapter provides step-by-step instructions for using the BAS Partnership Toolbox to setup your workspace and create change polygons. For best results, use the toolbox in ArcGIS Desktop 10.0 and higher (not including ArcGIS Pro). These toolbox tools were designed primarily for use in ArcCatalog though they run in ArcMap as well. The instructions for most steps assume use in ArcCatalog.

2.1 Toolbox Tools Setup

After downloading the toolbox from the BAS website, locate the zip file in your File Explorer.

1. Unzip the Digital BAS Partnership Tools.zip to the C: drive or other preferred working folder. The folder location does not matter as long as it can be accessed from ArcCatalog. Inside there will be a folder called DBAS, containing all the files to work with for a government.
2. Open ArcCatalog and connect to the DBAS folder. When expanded, the following should be visible:

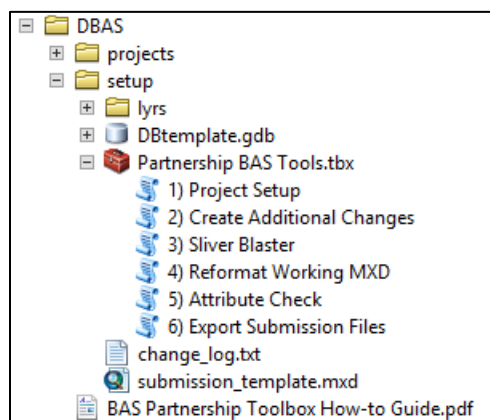


Figure 1. Partnership BAS Tools Menu

3. Do not attempt to change the file structure inside the DBAS folder. Moving folders or files from where they are located may cause issues later in the process.

Note: To connect to a folder in ArcCatalog, select the Connect to Folder button on the Standard toolbar, find the DBAS folder, and then choose OK.

2.2 Prepare Local Data

Before any of the Census Bureau tools can be run to create changes for a legal government, there must be an attribute field in the local boundary shapefile that contains the name of the government or governments as they appear in Census Bureau records ([Figure 2](#) and [Figure 3](#)). This includes matching capitalization, spacing, and in the case of MCDs and AIA's a descriptor of the geography (e.g., township, village, borough, etc.). If it is a new government or the legal name is changing, it does not need to agree though other attribution must be updated to reflect this change. Please refer to [Table 1](#) to see which feature class and field to use for each geography type.

FID *	ALPHA	new_name	Shape_Length
1	CONETOE	Conetoe	18798.2833
2	LEGGETT	Leggett	16515.9215
3	MACCLESFIELD	Macclesfield	16245.4801
4	PINETOPS	Pinetops	24335.0347
5	PRINCEVILLE	Princeville	51156.4595
6	ROCKY MOUNT	Rocky Mount	536948.7804
7	SHARPSBURG	Sharpsburg	38595.9219
8	SPEED	Speed	13134.1835
9	TARBORO	Tarboro	174112.0822

OBJE	NAME	STATEFP	COUNTYFP	PLACEFP
7	Conetoe	37	065	14200
8	Leggett	37	065	37640
3	Macclesfield	37	065	39960
5	Pinetops	37	065	52140
9	Princeville	37	065	53840
4	Rocky Mount	37	065	57500
1	Sharpsburg	37	065	61060
6	Speed	37	065	63720
10	Tarboro	37	065	66700

Figure 2. NAME Field in the Census Data vs Local Boundary Data

The bas_place layer on the right shows how the Census Bureau NAME field is populated for all the places in Edgecombe County, NC while the local places data on the left shows how local data may need to be manipulated to agree with the Census Bureau NAME field.

FID	Shape *	OBJECTID_1	OBJECTID	MUNICIPALI	MCN_CODE
28	Polygon	0	45	Adams township	010
3	Polygon	0	7	Allegheny township	020
9	Polygon	0	16	Brady township	030
31	Polygon	0	55	Buffalo township	040
20	Polygon	0	35	Butler township	050
15	Polygon	0	27	Center township	060
6	Polygon	0	11	Cherry township	070
10	Polygon	0	10	Clay township	080
22	Polygon	0	30	Clearfield township	090
30	Polygon	0	54	Clinton township	100

Shape *	STATEFP	COUNTYFP	COUSUBFP	NAMELSAD	COUSUBNS	LI
Polygon	42	019	00300	Adams township	1216040	44
Polygon	42	003	00724	Aleppo township	1215797	44
Polygon	42	007	00820	Alquippa city	1214861	25
Polygon	42	121	00884	Allegheny township	1217138	44
Polygon	42	019	00860	Allegheny township	1216041	44
Polygon	42	007	02208	Ambridge borough	1214862	21
Polygon	42	005	02720	Apollo borough	1214844	21
Polygon	42	005	02752	Applewild borough	1214845	21
Polygon	42	031	03248	Ashland township	1216200	44
Polygon	42	003	03320	Aspinwall borough	1214763	21

Figure 3. Appropriate Attribution for MCD or AIANNH Changes

The bas_cousub attribution on the right in the NAMELSAD field shows how the local MUNICIPALI field on the left should be formatted to ensure that the Create Changes tool works for the MCD changes in Butler County, PA. The bas_aial attribution appears in a similar way.

Table 1: Feature Class Field Names Based on Geography Type

GEOGRAPHY TYPE	FEATURE CLASS	FIELD
Incorporated Place	bas_place	NAME
MCD	bas_cousub	NAMELSAD
County	bas_county	NAME
Tribal	bas_aial	NAMELSAD
Consolidated City	bas_concity	NAME

2.3 Project Setup Tool

The Project Setup tool gathers all the BAS partnership shapefile data needed to create changes from the Census Bureau website, creates an initial change file, and formats the map document (.mxd) for the given BAS ID. Before using this tool, review sections 2.3.1 and 2.3.2 for additional guidance.

2.3.1 Offline Use

There are two ways to use this tool: one that downloads the data from the Census Bureau for the user and one that takes in a folder with the Census Bureau data already downloaded. If you have already downloaded the data, you must unzip the downloaded pvs batch zip file (e.g., pvs_batch_from_<st>) to display the partnership shapefiles zip files (e.g., partnership_shapefiles_23v2_<st> and partnership_shapefiles_23v2_<stcou>). The tool will look for these partnership_shapefiles zip files when it runs.

To use previously downloaded Census Bureau data, select No under the Use Data Downloader? field and navigate or drag the folder into Path to zip files field. Make sure the folder only contains the Census Bureau zip files to ensure there are no future data issues. Figure 4 shows how a user will complete the fields if they already have the partnership shapefiles downloaded and saved on their computer.

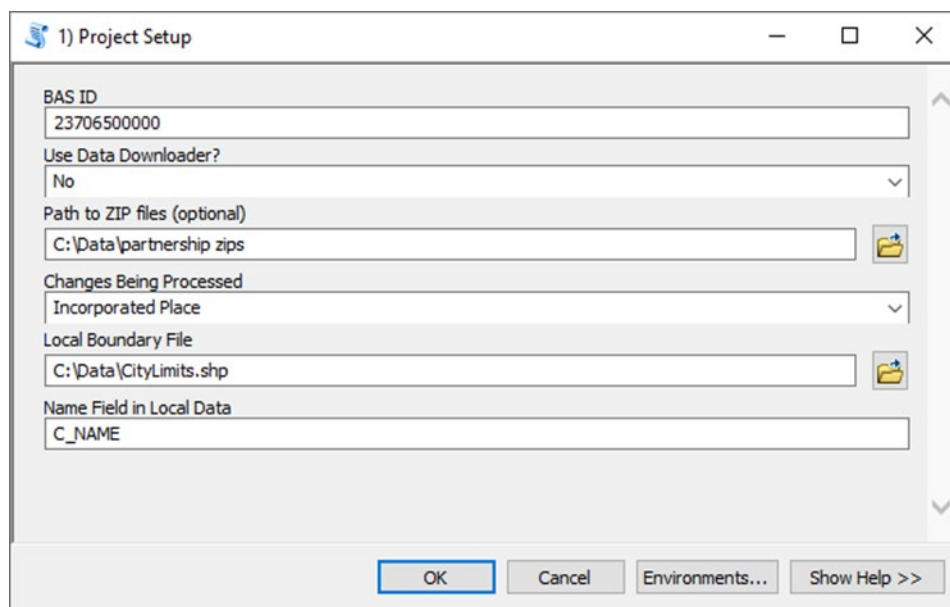


Figure 4. The Project Setup Window with 'No' in the Use Data Downloader Field

2.3.2 Change Types

The Project Setup tool and the Create Additional Changes tool allows the user to input a boundary file so that an initial set of changes can be created at the same time the Census Bureau data is being downloaded. We recommend using this opportunity to create changes for legal geographies. Examples of legal geographies are:

- Incorporated Place,

- County,
- County Subdivision (MCDs),
- Tribal, and
- Consolidated City.

If a user is not ready to create changes for a legal geography or does not have changes for a legal geography, the user can select the desired non-legal geography they wish to submit. This may include:

- CDP,
- Linear Features,
- Area Landmark, and
- Point Landmark.

If the user has more than one change type for which they want to create changes, users will run the Project Setup tool and then create additional change feature classes with the Create Additional Changes tool.

2.3.3 The Project Setup Tool

Please follow the steps below to run the Project Setup tool.

1. Expand the **DBAS** folder and the **setup** subfolder. In the setup subfolder, find the **Partnership BAS Tools** Toolbox. Expand the toolbox and double-click on the **1) Project Setup** tool.

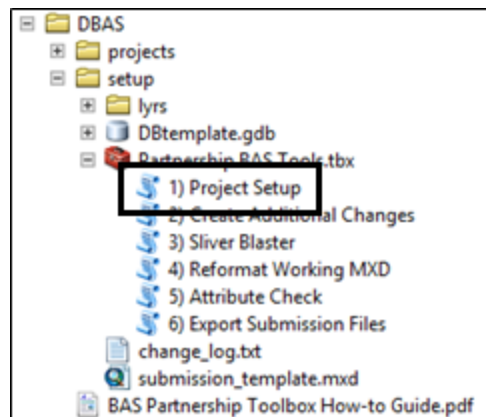


Figure 5. Partnership BAS Tools Menu with Project Setup Selected

2. Enter the 11-digit BAS ID in the **BAS ID** field.
3. The **Use Data Downloader?** field, select how you would like to get your Census Bureau data:
 - To have the Census Bureau data downloaded automatically, select Yes under the **Use Data Downloader?** field then proceed to step 5.
 - To use previously downloaded Census Bureau data, select No under the **Use Data Downloader?** field then proceed to step 4.
4. The **Path to zip files** field will only take an input if No was selected earlier in the **Use Data Downloader?** field. Navigate or drag the folder into **Path to zip files** field. Make sure the folder only contains the Census Bureau zip files to ensure there are no future data issues. Refer to section [2.3.2](#) for more guidance.

Note: If you get an error message when trying to use the automatic download, please manually download the partnership files and try the tool that way. If an error still occurs, please contact the Census Bureau using the format laid out in the [Contact Us](#) section.

5. Under **Changes Being Processed**, choose the type of changes to create from the dropdown options. Available inputs are listed in [Table 2](#). If a legal geography is selected proceed to step 6. If a non-legal geography is selected, proceed to step 8.

Table 2: Distinction Between the Types of Changes Allowed in the Project Setup Tool

LEGAL GEOGRAPHY	NON-LEGAL GEOGRAPHY
Incorporated Place	CDP
County Subdivision (MCDs)	Linear Features
County	Area Landmarks
Tribal	Point Landmarks
Consolidated City	

6. In the **Local Boundary File** field, enter the path or navigate to the full boundary polygon.
7. For the **Name Field in Local Data**, type the name of the field (as it appears in your local data in ArcCatalog) containing the information matching the Census Bureau's NAME or NAMELSAD field as appropriate from section [2.2](#).
8. Once all fields are complete, choose **OK**.

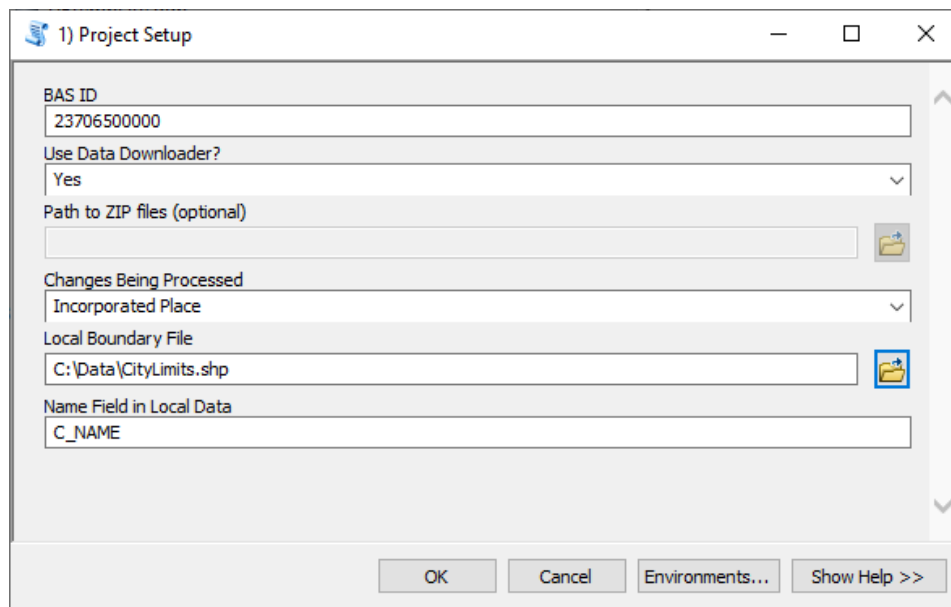


Figure 6. Project Setup Window for Legal Changes

Note: If a non-legal geography type was selected for Changes Being Processed, the last two fields will be blank and disabled. Please see section [2.4](#) for examples of what this looks like.

9. When this tool is complete, there should now be a folder for the BAS ID in the projects folder. Inside that folder, there will be a geodatabase (gdb) with reference data in it, an archive folder, your project .mxd, and change polygons for the submitted change type inside the submission feature dataset.

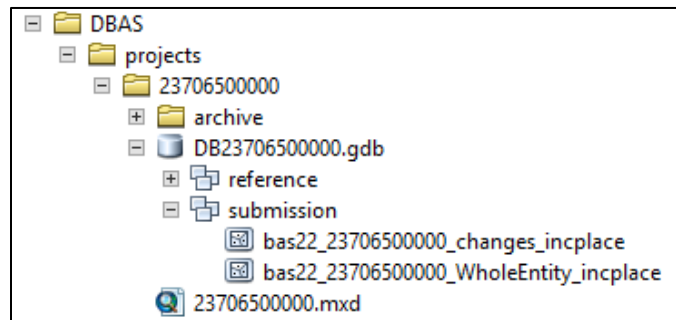


Figure 7. Partnership Tools Menu Showing a Folder for the BAS ID in the Project Folder

Note: The archive folder contains other Census Bureau data that may be useful as well.

10. At this point, there are a few different options for next steps.
 - To create additional changes, proceed to section [2.4](#).
 - To remove slivers that you know are present in your new change file, proceed to section [2.5](#). Please only proceed straight to the Sliver Blaster if you have no other legal change files to create as it will run on all change files at the same time.
 - To begin reviewing your changes, proceed to [Chapter 3](#).

2.4 Create Additional Changes Tool (Optional)

You can run the **2) Create Additional Changes** tool to create change files for additional levels of geography. If you only need changes for one level of geography and they were already made in the Project Setup Tool, proceed to section [2.5](#) if you want to remove slivers or proceed to [Chapter 3](#) to begin reviewing your changes.

To create additional change types in your project:

1. If you have not prepared your local data already, please refer to section [2.2](#) before proceeding to create legal changes. If you are using this tool to create changes for a non-legal geography, continue to step 2.

2. Double-click on the **2) Create Additional Changes** tool.

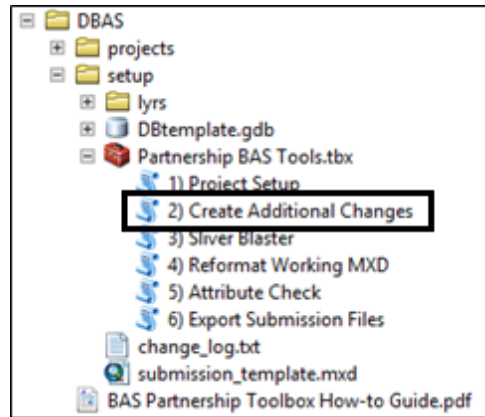


Figure 8. Partnership Tools Menu with Create Additional Changes Tool Selected

3. To create changes for legal geographies, in the **Create Additional Changes** window:
 - Enter the 11-digit BAS ID in the **BAS ID** field.
 - Under **Changes Being Processed**, choose the type of changes to create from the dropdown options:
 - Incorporated Place.
 - County.
 - County Subdivision (MCDs).
 - Tribal.
 - Consolidated City.
 - In the **Local Boundary File** field, enter the path or navigate to the full boundary polygon.
 - For the **Name Field in Local Data**, type the name of the field (as it appears in ArcCatalog) containing the information matching the Census Bureau's NAME or NAMELSAD field as appropriate from section [2.2](#).

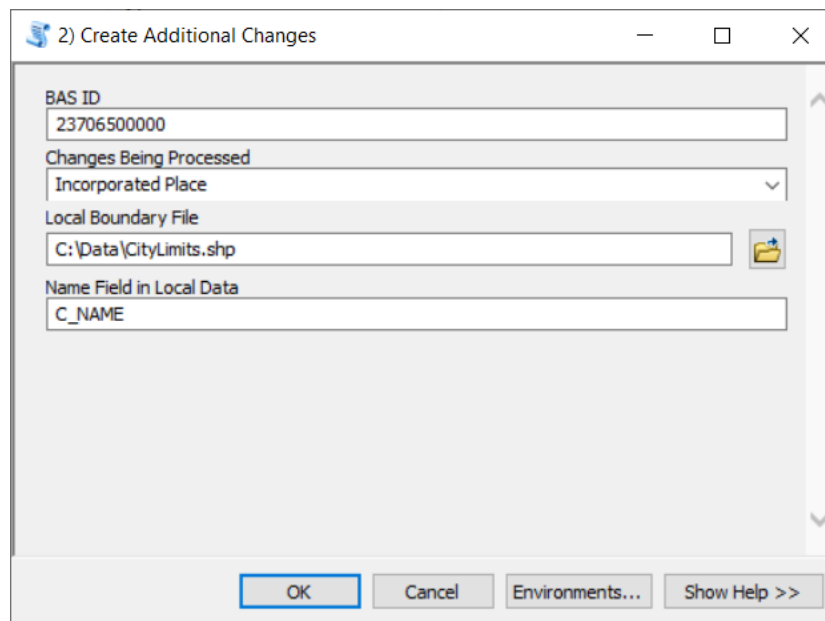


Figure 9. Create Additional Changes Window for Legal Changes

4. To create changes for any other geography, in the **Create Changes** window:
 - Enter the 11-digit BAS ID in the **BAS ID** field.
 - Under **Changes Being Processed**, choose the type of changes to create from the dropdown options:
 - CDP.
 - Linear Features.
 - Area Landmark.
 - Point Landmark.

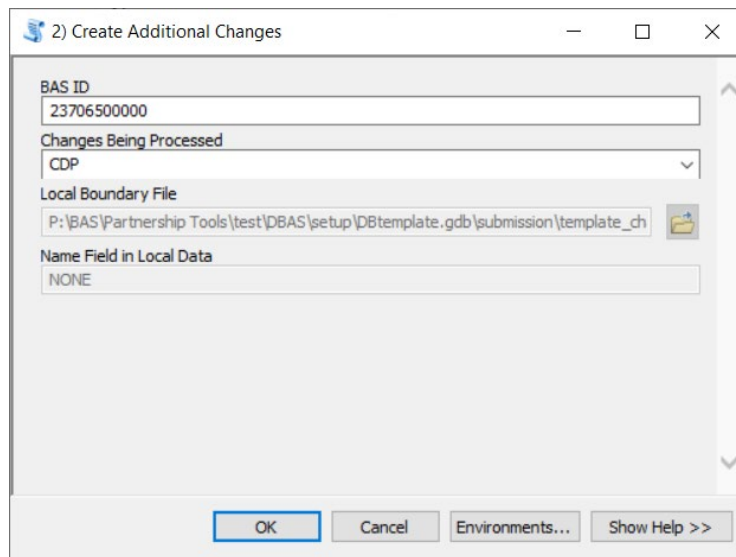


Figure 10. Create Additional Changes Window for Non-Legal Changes

5. Select **OK** to run the tool.
6. Once the tool is complete, the output will be placed in the geodatabase under the submission feature dataset.

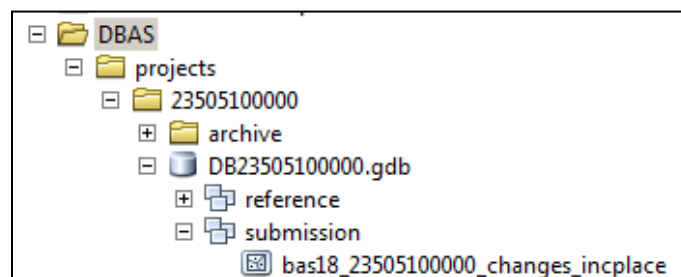


Figure 11. Partnership Tools Menu with Geodatabase

7. Repeat steps for any other levels of geography that need changes created.
8. Once all legal changes have been created, users can proceed to section [2.5](#) if they want to automatically remove small sliver polygons.
9. If multiple change feature classes have been created with this tool, it's recommended to run the Reformat Working MXD tool however it is not required.

Note: The BAS year used in screenshots throughout this document may vary, however, functionality remains the same.

2.5 Sliver Blaster Tool (Optional)

The Sliver Blaster tool is useful for governments that have numerous very small change polygons that are time consuming to manually parse through for deletion. Since the Census Bureau cannot guarantee inclusion of changes under 30 feet wide, use this tool to remove changes that are lower than that threshold. Participants can also change the tolerance for slivers if they know there are small changes that need to be included. This automated tool will vary in processing time depending on the number of features in the entity.

Note: This tool should only be used on legal geographies. Do not use this on CDPs, linear features, or landmarks of any kind.

1. Double-click on the **3) Sliver Blaster** tool.

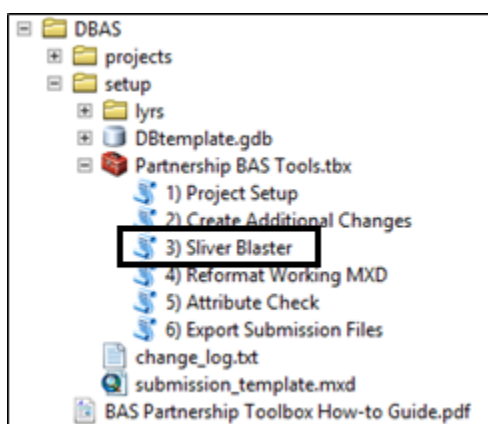


Figure 12. Partnership Tools Menu with Sliver Blaster Selected

2. In the **Sliver Blaster** tool window:
 - The **BASID Folder** refers to the folder in the projects folder that corresponds with the area you are working.
 - The **Boundary Buffer** and **Road Buffer** fields are set to 15 feet and 30 feet by default but can be adjusted to accommodate smaller changes.
3. Select **OK** to run.

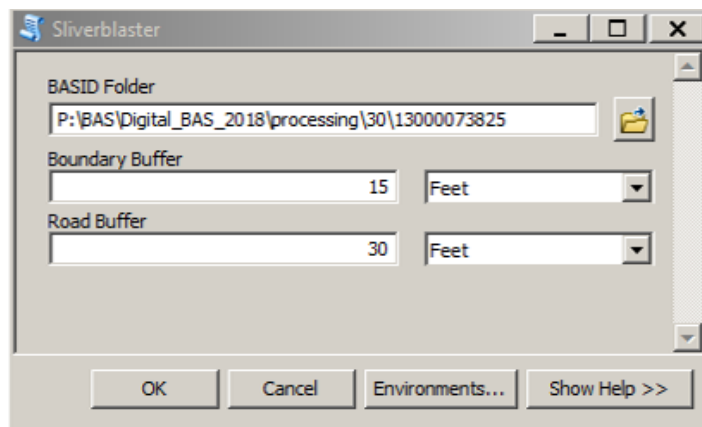


Figure 13. Sliver Blaster Window

2.6 Reformat Working MXD Tool (Optional)

An .mxd is created in the Project Setup tool. However, if users create many new change feature classes in the Create Additional Changes tool or if an .mxd becomes corrupted or otherwise unusable, this tool can be used to recreate the .mxd. If users would prefer to use their own .mxd, this step is not required.

1. Double-click on the **4) Reformat Working MXD** tool.

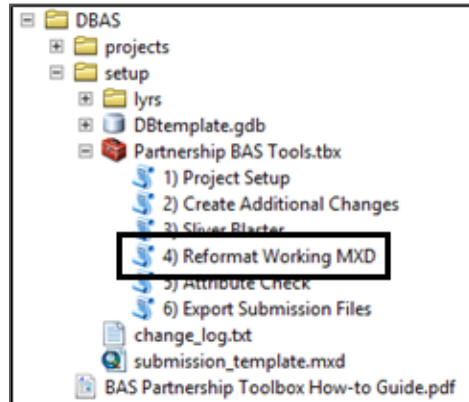


Figure 14. Partnership Tools Menu with Reformat Working MXD Selected

2. The only input for this tool is the **Working Folder**, which is the folder with the government's BAS ID as its name.

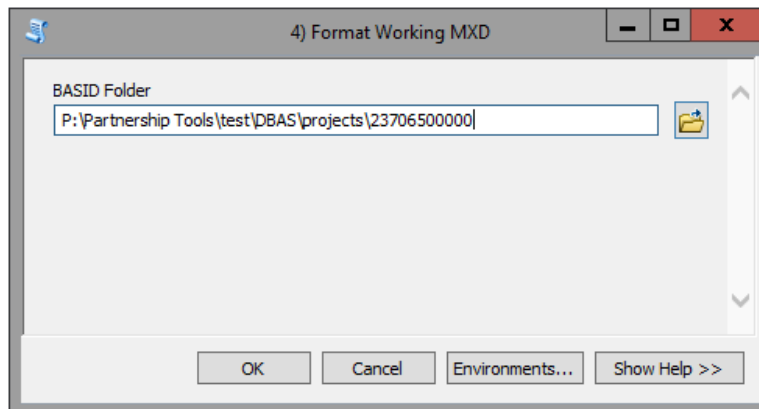


Figure 15. Reformat Working MXD Window

3. Select **OK** to run the tool.
4. Open the new .mxd and begin working with the change polygons.

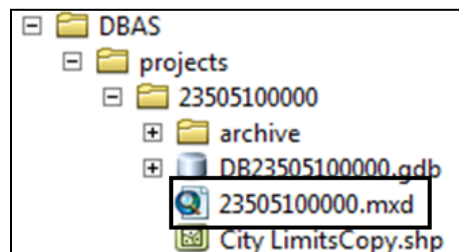


Figure 16. Project Submenu with .mxd file Selected

CHAPTER 3 REVIEWING AND EXPORTING A SUBMISSION

At this point in the process, a review of the created changes is necessary to ensure proper attribution is contained in each record. This chapter will discuss the types of changes you may want to update or remove from your submission based on current relationships within the Census Bureau data.

1. Please open the <BASID>.mxd created in the previous chapter and start an editing session. Open the attribute table for your changes layer(s) so you can go line by line through the requested changes.
2. Review each change polygon for any of the following potential issues:
 - Required attribution information (section [3.1](#))
 - Large boundary corrections (section [3.2](#))
 - Boundary-to-Feature Relationships (section [3.3](#))
 - Corridors and Offsets (section [3.4](#))

As a reminder, the Census Bureau will snap boundary changes to any linear feature that is correctly located within thirty feet of the change. Additionally, changes that are less than 30 feet at their widest point may not be incorporated into the Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) System due to system constraints. Refer to the BAS Technical Guide www.census.gov/programs-surveys/bas/information/respondent-guides.html for more information.

3. Edit landmark, feature, and CDP changes as necessary.
4. Save your edits to your change feature classes.
5. Export submission and proceed to [Chapter 4](#).

3.1 Required Attribute Information

It is important to review each change polygon and confirm that the correct attribute information is included. Without the correct attribute information, the Census Bureau will be unable to process and incorporate the changes into the MAF/TIGER System.

1. All changes are coded as a “B” for Boundary Correction by the Create Changes tool. If you know there are legal changes in your file, navigate to the area the legal change is in and select the change polygon.
2. Update the required fields for the selected change polygon. Refer to [Table 3](#) for the required attributes that will need to be manually updated. [Table 4](#) lists the acceptable values for each required field or expected values for fields that do not take a specific Census Bureau code.
3. Once the attribution is updated, save the edits, move to the next change polygon, and repeat the process in steps 1 and 2.
4. Once the known legal changes are complete, review the rest of the changes using the guidance in sections [3.2](#), [3.3](#), and [3.4](#).

Table 3: Required Attribution by Update Type

UPDATE TYPE	CHNG_TYPE	NAME	EFF_DATE	AUTHTYPE	DOCU	AREA	RELATE
Annexation/ Addition	✓	✓	✓	✓	✓*	✓*	
Deannexation/ Deletion	✓	✓	✓	✓	✓*	✓*	
Boundary Correction	✓	✓					✓
Geographic Corridor	✓	✓					✓
Geographic Offset	✓	✓					✓
Disincorporation/ Remove Entity	✓	✓	✓	✓	✓		
New Incorporation/ Add Entity	✓	✓	✓	✓	✓		
Name Change	✓	✓	✓	✓	✓		

Note*: The AREA field is required for submissions in Georgia. The DOCU field is not required for submissions in Georgia.

Table 4: Acceptable Field Inputs for Changes Submitted to BAS

ATTRIBUTE FIELD	ATTRIBUTE FIELD DESCRIPTION	ALLOWABLE VALUE	ALLOWABLE VALUE DESCRIPTION
CHNG_TYPE	Type of Area Update	A	Annexation/Addition
CHNG_TYPE	Type of Area Update	D	Deannexation/Deletion
CHNG_TYPE	Type of Area Update	B	Boundary Correction
CHNG_TYPE	Type of Area Update	C	Geographic Corridor
CHNG_TYPE	Type of Area Update	F	Geographic Offset
CHNG_TYPE	Type of Area Update	X	Disincorporation/Remove Entity
CHNG_TYPE	Type of Area Update	E	New Incorporation/Add Entity
CHNG_TYPE	Type of Area Update	G	Name Change
EFF_DATE	Effective date of legal change	mm/dd/yyyy	Two-digit month, two-digit day, and four-digit year.
AUTHTYPE	Type of Authorization	O	Ordinance

ATTRIBUTE FIELD	ATTRIBUTE FIELD DESCRIPTION	ALLOWABLE VALUE	ALLOWABLE VALUE DESCRIPTION
AUTHTYPE	Type of Authorization	R	Resolution
AUTHTYPE	Type of Authorization	L	Local Law
AUTHTYPE	Type of Authorization	S	State Level Action
AUTHTYPE	Type of Authorization	E	Executive Order (Tribal Submissions Only)
AUTHTYPE	Type of Authorization	C	BIA Certification (Tribal Submissions Only)
AUTHTYPE	Type of Authorization	D	Deed (Tribal Submissions Only)
AUTHTYPE	Type of Authorization	X	Other
DOCU	Supporting documentation number	O-### R-###	Unique number or code assigned to the legal document; not required in the state of Georgia
AREA	Area of update in acres	##.#	Only required in the state of Georgia
RELATE	Relationship Description	IN	Area is added to the entity.
RELATE	Relationship Description	OUT	Area is removed from the entity.

3.2 Large Boundary Corrections

The Census Bureau will not accept large boundary corrections that substantially change the current boundary of a government without the appropriate legal documentation numbers and effective dates. These large boundary corrections ([Figure 17](#)) may be legal boundary changes that occurred in the past and were never reported to the Census Bureau.

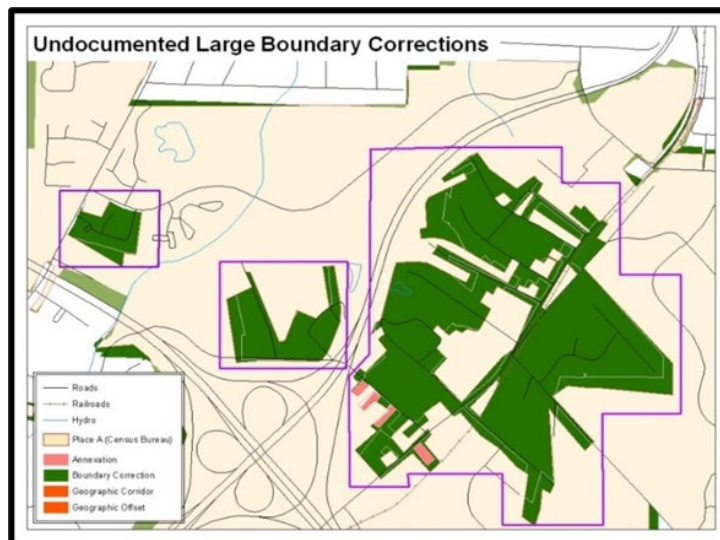


Figure 17. Large Boundary Corrections

Without the appropriate documentation, the Census Bureau will not accept large boundary corrections.

If you identify a large boundary correction that is a previous legal change, please do the following:

1. Submit the appropriate legal documentation number and effective date (no matter how old), so the changes may be incorporated into the MAF/TIGER System. Refer to [Table 3](#) and [Table 4](#) and to the steps in section [3.1](#) to complete required attribution for legal changes.
2. If legal documentation cannot be provided for any reason, please [Contact Us](#) to discuss your submission options.

Note: There may be a few instances when large boundary corrections need to be made because of incorrect digitizing or where the boundary appears in the incorrect location due to other Census Bureau activities. If unsure how to proceed, [Contact Us](#) to discuss submission options.

3.3 Boundary to Feature Relationships

Please review all changes to ensure that the correct boundary-to-feature relationships are being created or maintained. The Census Bureau is aware that many governments base their legal boundaries on cadastral (parcel-based) right-of-way mapping; however, the Census Bureau bases maps on spatial data that is topologically integrated (see the BAS Technical Guide www.census.gov/programs-surveys/bas/information/respondent-guides.html). This helps establish a more accurate population count for governments.

The Census Bureau will not accept boundary corrections that dissolve the current relationship between an existing boundary and linear feature without specific instruction that the relationship is incorrect. The Census Bureau will not incorporate any boundary corrections that create a 30-foot, or less, gap or overlap between the existing linear feature and boundary into the MAF/TIGER System. [Figure 18](#) shows an example of changes that will not be accepted.

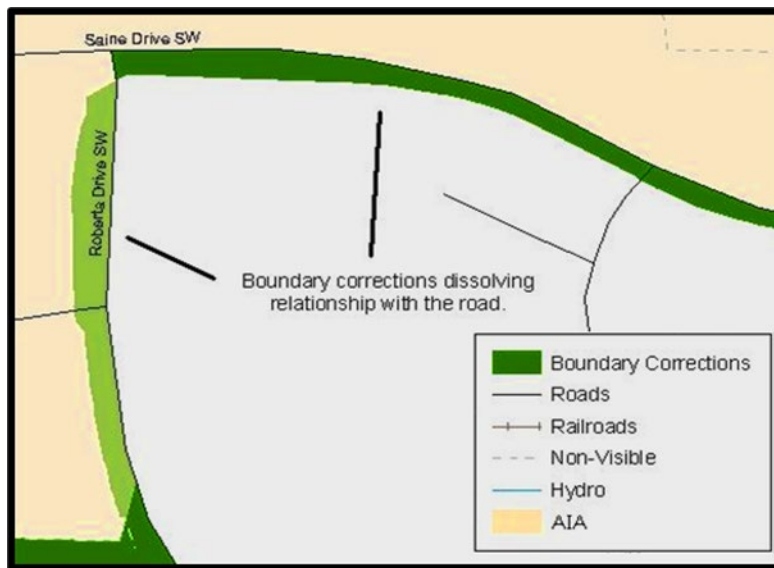


Figure 18. Small Spatial Corrections Not Accepted

Small spatial boundary corrections (<30ft) would dissolve the boundary to feature relationship with multiple streets. Incorporating these changes would affect the population counts for the area. Therefore, the Census Bureau will not accept these small boundary corrections.

If there are changes in your submission that would remove boundary-to-feature relationships, use the following information to determine if the change should be kept or deleted from the submission:

1. Changes that are based on cadastral data and are not legally required to accurately display the boundary can be deleted from the submission.
2. If the change is along a roadway and must be incorporated, please consider marking it as an offset or corridor. Please refer to section 3.4 to learn how to add corridors and offsets.
3. If the feature is incorrectly located, the change can remain in the submission. Please note the incorrect feature in the **JUSTIFY** field.

3.4 Corridors and Offsets

The Census Bureau does not require places and AIAs to report rights-of-way. Geographic corridors are not essential to the mission of the Census Bureau and the right-of-way should only be included if it is crucial to the place or AIA, or if state or local laws require it. For more information on appropriate uses of corridors and offsets, refer to the BAS Technical Guide <www.census.gov/programs-surveys/bas/information/respondent-guides.html>.

Use the following guidance to properly add and attribute a corridor or offset to your submission:

1. Navigate to the change polygon and select it.
2. Using the Attribute table or the Attribute Window, change the **CHNG_TYPE** to the appropriate value. For a corridor set it to C and for an Offset set it to F.
3. If this change is due to legal action, provide the **AUTHTYPE**, **DOCU**, **EFF_DATE**, and **AREA** as appropriate as well. Information on these required fields can be found in section 3.1.

3.5 CDP, Linear Feature, and Landmark Changes

CDPs, linear features, area landmarks (e.g., lakes), and point landmarks (e.g., mountain peaks) can be updated through BAS, but they are not required. The Census Bureau accepts updates to these areas in a similar manner to legal boundary changes. However, since they are not legal governments, no documentation or effective dates are required.

3.5.1 CDP Changes

To create changes to CDPs, make sure you have already run the **2) Create Additional Changes** tool with CDP selected. That tool creates an empty feature class called **bas<yy>_<BAS ID>_changes_cdp**.

Each CDP update must have the required attributes and corresponding change type populated (refer to [Table 5](#)). The steps below document how to properly update your CDP layer.

Table 5: Required Attribution for CDP Changes

UPDATE TYPE	CHNG_TYPE VALUE	CHNG_TYPE	NAME	RELATE
Boundary Correction	B	✓	✓	✓
Delete CDP	X	✓	✓	
New CDP	E	✓	✓	
Name Change	G	✓	✓	

Note: The checkmark (✓) in the table denotes a required field for the four types of CDP changes.

1. Start an editing session if you have not already. Navigate to the area where you would like to modify, add, or remove a CDP. Make sure the **Create Features** window is open as it should list all the appropriate types of CDP edits you may want to make.



Figure 19. Editor Toolbar with the Create Features Tool Highlighted

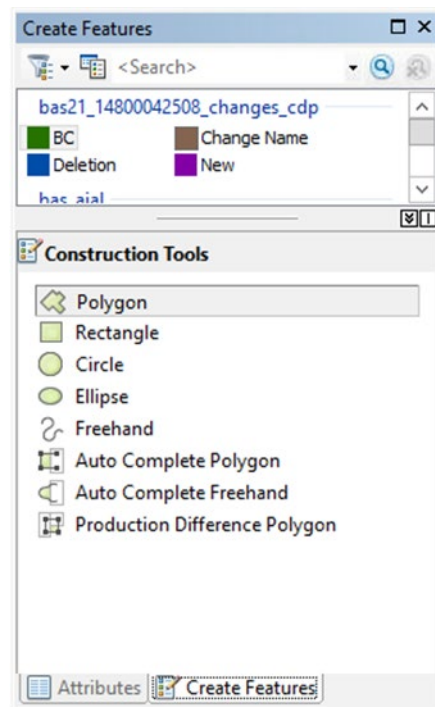


Figure 20. The Create Features window in ArcMap

2. To modify a CDP's shape, you will use the built in ArcGIS edit tools to draw the difference between the boundaries as you would like it to appear. Select the **BC (Boundary Correction)** template for these changes and draw the areas that should be added or removed from the CDP. Once the polygon is complete, update the following fields in the attribute table:
 - a. Enter the feature name in the **NAME** field. If you're not sure of the name, you can use the identify tool to get the name from the bas_cdp layer.
 - b. Update the **RELATE** field to designate if the area is being added (IN) or removed (OUT) from the CDP.
 - c. Make sure the **CHNG_TYPE** field has the appropriate designator (B). If it does not, change it to B.

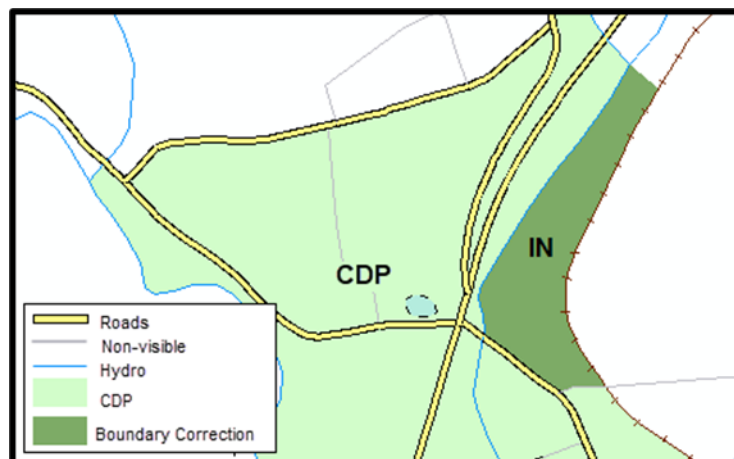


Figure 21. Boundary Correction to a CDP

3. To modify a CDP's name:
 - a. Select the CDP from the bas_cdp layer. Copy and paste it into the bas<yy>_<BAS ID>_changes_cdp layer.
 - b. Begin editing the attributes for the pasted change. Enter a 'G' in the **CHNG_TYPE** field and enter the new name in the **NAME** field.
4. To add a CDP, use the built in ArcGIS edit tools to draw the new boundaries as you would like it to appear, using the New Incorporation template. Once the polygon is complete, make sure to update the following fields in the attribute table:
 - a. Enter the new name in the **NAME** field.
 - b. Make sure the **CHNG_TYPE** field has the appropriate designator (E). If it doesn't, change it to 'E.'
5. To delete a CDP:
 - a. Select the CDP from the bas_cdp layer. Copy and paste it into the bas<yy>_<BAS ID>_changes_cdp layer.
 - b. Begin editing the attributes for the pasted change. Enter an 'X' in the **CHNG_TYPE** field.

3.5.2 Linear Feature Changes

The Census Bureau will accept linear feature modifications when needed. If you have linear feature changes to submit, make sure you have already run the **2) Create Additional Changes** tool with Linear Features selected. That tool creates an empty feature class called **bas<yy>_<BAS ID>_In_changes**. There are multiple valid approaches to populating this layer with appropriate change data. Since these would include potential updates to local data sources, we cannot say which would be most appropriate for each individual user.

Each linear feature update must have the required attributes and corresponding change type populated as depicted in [Table 6](#). If the correct attribution is not provided, the Census Bureau will not make the correction for this BAS cycle. The steps below document how to properly update your linear feature layer.

Table 6: Required Attribution for Linear Feature Updates

UPDATE TYPE	CHNG_TYPE VALUE	CHNG_TYPE	TLID	FULLNAME	MTFCC	LTOADD	RTOADD	LFROMADD	RFROMADD
Add Feature	AL	✓		✓	✓	✓	✓	✓	✓
Delete Feature	DL	✓	✓						
Rename Feature	CA	✓	✓	✓					
Recode Feature	CA	✓	✓		✓				

Note: The checkmark (✓) in the table denotes required fields for the linear feature update types. The address related fields (e.g., LTOADD, RTOADD, LFROMADD, and RFROMADD) are requested (not required) for Add Feature records.

1. Some possible methods for adding lines include:
 - a. Load the data (with or without a query) into the changes feature class so that individual fields can be mapped into the Census Bureau requested schema.
 - b. During an edit session, trace the local data source or create streets from imagery using the appropriate `bas<yy>_<basid>_In_changes` template to create new records.
 - c. During an edit session, copy and paste data from the local streets data source.
2. For adding linear features, modify the attribution for the features using your preferred editing method:
 - a. Enter 'AL' in the **CHNG_TYPE** field (if it is not already populated) and enter the appropriate MTFCC in the MTFCC field. If the feature has a name, enter the name in the **FULLNAME** field.
 - b. If this is a new street (MTFCC starts with S), you must provide the name of the street in the **FULLNAME** field and you may also provide Address Ranges (**LTOADD**, **RTOADD**, **LFROMADD**, and **RFROMADD**).
3. To modify or delete lines, start an edit session if one is not ongoing. Then copy and paste the records from the `bas_edges` feature class you want to change. By doing this you preserve the TIGER/Line ID (TLID) in the **TLID** field to ensure the correct features are affected.
4. If a feature that does not exist is in the Census Bureau's feature network, mark the feature for deletion by entering 'DL' in the **CHNG_TYPE** field.
5. If a feature is in the incorrect location in the Census Bureau's feature network, mark the feature for deletion and re-add it in the correct location using the steps laid out above. Only do this if the feature is very far off or is in the wrong position relative to boundaries or other features.
6. If a feature has an incorrect name and/or MTFCC, enter 'CA' in the **CHNG_TYPE** field. Populate the correct MTFCC in **MTFCC** and/or the correct name in **FULLNAME**.

Note: A list of MTFCCs can be found at
<www.census.gov/library/reference/code-lists/mt-feature-class-codes.html>.

3.5.3 Area Landmark, Hydrographic Area, and Point Landmark Updates

Area landmarks, hydrographic areas (e.g., lakes), and point landmarks (e.g., mountain peaks) can be updated through BAS, but are not required. Hydrographic area changes should be included in the area landmark changes file so for this section the term "area landmark" includes hydrographic updates. Landmark updates that are accepted through BAS are listed in [Table 7](#). For more guidance on MTFCCs, acceptable values, and how they are used, please visit <www.census.gov/library/reference/code-lists/mt-feature-class-codes.html>.

Table 7: Examples of Acceptable Landmark Updates

AREA LANDMARKS	AREA OR POINT LANDMARKS	POINT LANDMARKS
Water bodies	Airports	Mountain peaks or summits
Swamps	Parks	Libraries
Quarries	Schools	City halls
Forests	Golf courses	Community centers
	Museums	Police stations
	Cemeteries	

It is important to note that the Census Bureau cannot delete or modify any point landmarks imported from the USGS GNIS database. Therefore, changes submitted for the following types of landmarks may be left unchanged even though they are acceptable updates:

- K2451 (Airport).
- K2582 (Cemetery).
- C3022 (Summit or Pillar).
- C3081 (Locale or Populated Place).
- C3061 (Cul-de-sacs).

In order to submit updates, make sure you have run the **2) Create Additional Changes** tool with Point Landmark or Area Landmark selected as described in section 2.4 for each type of change you want to submit. That tool creates an empty feature class called **bas<yy>_<BAS ID>_pointlm_changes** or **bas<yy>_<BAS ID>_arealm_changes** based on the requested input. The types of updates that can be submitted for point and area landmarks are in **Table 8**.

Table 8: Acceptable Landmark Updates

UPDATE TYPE	AREA LANDMARK (arealm_changes)	POINT LANDMARK (pointlm_changes)
Boundary Correction (adding and removing area)	✓	
Create New	✓	✓
Remove	✓	✓
Name Change	✓	✓

Each area landmark or hydrographic area update must have the required attributes and corresponding change type populated as depicted in **Table 9**. The steps below document how to properly update your point and area landmark changes layer(s).

Table 9: Required Attribution for Point Landmark, Area Landmark, and Hydrographic Area Updates

UPDATE TYPE	CHNG_TYPE VALUE	CHNG_TYPE	FULLNAME	RELATE	MTFCC	AREAID/POINTID
Boundary Correction (Area landmarks only)	B	✓	✓	✓		✓
Delete Landmark	X	✓				✓
Change Landmark Name	G	✓	✓			✓
New Landmark	E	✓	✓		✓	

Note: The checkmark (✓) denotes required fields.

1. To modify the shape of an area landmark, create the change polygons using the built in ArcGIS Editing tools in the **Create Features** window. This window should list all the appropriate types of landmark edits you may want to make. Select the Boundary Correction template for these changes and draw the areas that should be added or removed from the landmark.
2. Once you have completed the change polygon, modify the attribution for the features using your preferred editing method:
 - a. Enter the feature name in the **FULLNAME** field. If you're not sure of the name, you can use the identify tool to get the name from the bas_arealm and/or bas_water layer.
 - b. Update the **RELATE** field to designate if the area is being added (IN) or removed (OUT) from the area landmark.
 - c. Make sure the **CHNG_TYPE** field has the appropriate designator (B). If it doesn't, change it to 'B.'
3. To add new features, use the built in ArcGIS editing tools to create new point/area landmarks or to copy/paste landmarks from another data source.
 - a. Enter the name of the new feature in the **FULLNAME** field.
 - b. Enter an MTFCC in the **MTFCC** field. The acceptable MTFCC codes for new landmarks are listed at <www.census.gov/library/reference/code-lists/mt-feature-class-codes.html>.
 - c. Make sure the **CHNG_TYPE** field has the appropriate designator (E). If it doesn't, change it to 'E.'

Note: When adding new area landmarks, please only add the following types of areas: water bodies, glaciers, airports, cemeteries, golf courses, and parks. The Census Bureau cannot add other types of areas at this time (although some may already exist in the MAF/TIGER System). If adding a MTFCC K2457 (Airport – Area Representation) area landmark, please limit the updates to major airports (major regional and international airports). The feature should show the full extent of the airport facility, that is, do not limit the addition to simply the landing strip.

4. To delete any type of landmark, copy and paste the records from the bas_arealm, bas_pointlm, or bas_water feature class that you want to remove into the appropriate changes feature class. Edit the **CHNG_TYPE** field so that they are marked with an 'X.'

5. To modify the location of a point landmark, mark the feature for deletion and re-add it in the correct location using the steps laid out above. Only do this if the feature is very far off or in the wrong position relative to boundaries or other features.
6. If a landmark has an incorrect name and/or MTFCC, copy and paste the records from the bas_arealm, bas_pointlm, or bas_water feature class that you want to remove into the appropriate changes feature class. Enter 'G' in the CHNG_TYPE field. Populate the correct MTFCC in MTFCC and/or the correct name in **FULLNAME**.

3.6 Attribute Check Tool

This tool is used to verify that there are no inconsistencies with the data included in the submission. Run this tool during or after change polygons have been reviewed for spatial accuracy to produce a report of attribution errors. It may also run for all levels of geography that have changes since it is run on each individual change file.

1. Double-click on the **5) Attribute Check** tool.

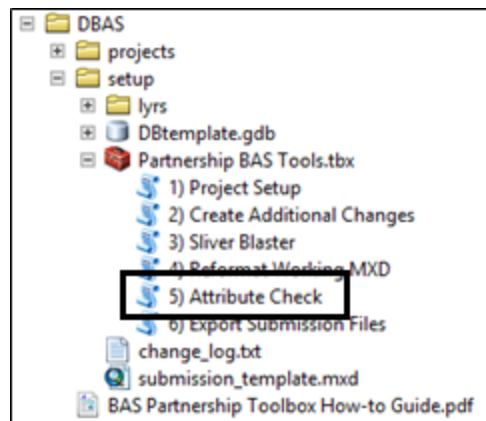


Figure 22. Partnership Tools Menu with Attribute Check Selected

2. In the **Attribute Check** window:
 - a. The **Change File** should be the change file created in the **2) Create Additional Changes** tool to generate a report.
 - b. In **Geography Type**, choose the type of geography being worked on from the dropdown. The same options as the Create Changes tool are available here.
 - c. The last input is the optional check box for 'Includes Changes in Georgia'. This box only needs to be checked if responding in the state of Georgia.

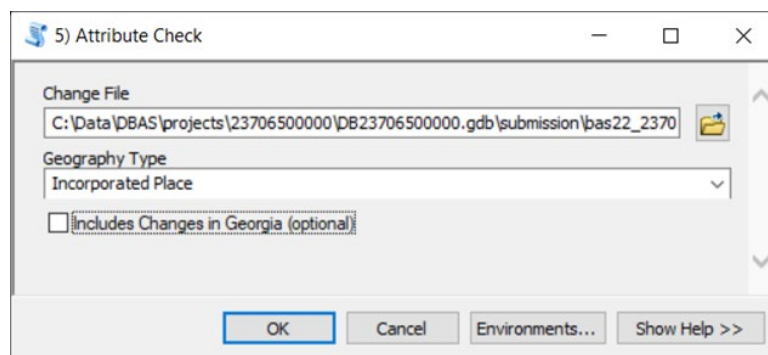


Figure 23. Attribute Check Window

3. Select **OK** to run the tool.
4. There should now be a text file in the working folder called **attribute_check_<geogtype>.txt** containing all the discrepancies identified in the change file that still need to be fixed.

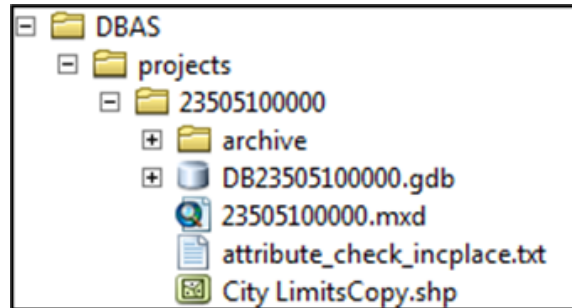


Figure 24. Projects Submenu Showing an Attribute Check Text File

5. Reopen the working .mxd and correct any attribution errors identified in the error text file. Use the tables in the above sections to assist in correcting those errors.

3.7 Export Submission Tool

Upon review of the changes file and the attribute error report, the finalized changes may be exported for submission to the Census Bureau. This tool can also be used to provide updated contact information with the submission.

Note: This tool does not submit the changes, it just makes a file for submission. Please follow steps listed in [Chapter 4](#) to submit the changes through the Secure Web Incoming Module (SWIM).

1. Double-click on the **6) Export Submission Files** tool.

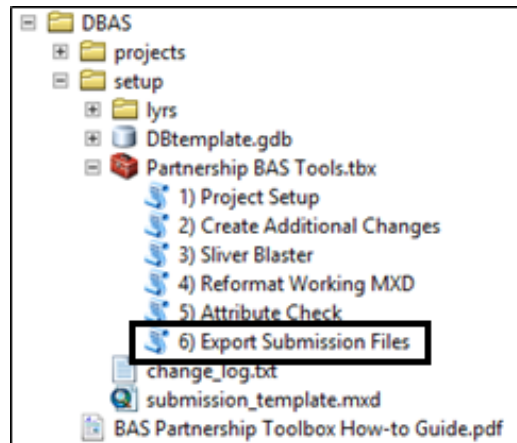


Figure 25. Partnership Tools Menu with Export Submission Files Selected

2. In the Export Submission Files tool window:
 - a. Enter the 11-digit BAS ID into the **BAS ID** field.
 - b. Parcel data can be included as supplemental information in the **Parcels** field. This is an optional field so it can also be left blank.
 - c. Under **Additional Files**, drag in or navigate to any additional files to be included in the submission. This can include streets data, maps, legal documentation, or any other helpful

supporting data. This is an optional field so it can also be left blank. There is no need to add the changes layers here as the tool will handle those already based on the BAS ID.

- d. For **BAS Contact, Entity Name, Contact Title or Department Name, Address, Email, and Phone Number**, please include any or all contact information updates that are to be sent to the Census Bureau. These fields can be left blank if there are no updates, though if someone other than the BAS Contact prepared the submission, include the contact information.

The screenshot shows a dialog box titled "6) Export Submission Files". It contains the following fields and values:

- BAS ID:** 14800042508
- Parcels (optional):** C:\Lewisville_parcel.shp
- Additional Files (optional):** H:\!!HDriveStuff\BAS\misc\annexations.shp
- BAS Contact (optional):** John Doe
- Entity Name (optional):** Lewisville
- Contact Title or Department Name (optional):** GIS Manger
- Address (optional):** 123 Main St
- Email (optional):** gis@city.gov
- Phone Number (optional):** (123) 456-7890

At the bottom of the dialog box are four buttons: "OK", "Cancel", "Environments...", and "Show Help >>".

Figure 26. Export Submission Files Window

3. Select **OK** to run the tool.
4. When the tool completes, a new browser window will open and load the SWIM webpage. The zip file with your submission will be located inside the BAS ID folder and named **BAS<yy>_<BASID>_return.zip**.

CHAPTER 4 SUBMIT CHANGES TO THE CENSUS BUREAU

All participants must use the Secure Web Incoming Module (SWIM) to submit their changes to the Census Bureau. Due to security requirements, the Census Bureau cannot accept submissions via File Transfer Protocol, email, or any protocol other than the SWIM site.

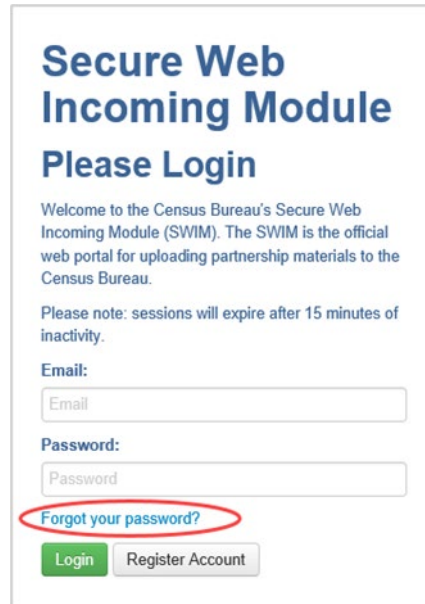
To upload and transmit update files to the Census Bureau, participants must access their accounts for SWIM.

1. Open a web browser window and enter the SWIM URL: <<https://respond.census.gov/swim/>>. SWIM runs on the two most recent versions of each of these major browsers:
 - Microsoft Edge®
 - Google Chrome®
 - Mozilla Firefox®
 - Apple Safari®
2. Participants who already have a SWIM account should proceed to step 4 to log in.
3. Participants who do not have a SWIM account should choose ‘Register Account’:
 - Enter the 12-digit token provided by the Census Bureau.
 - Create a password following the criteria below:
 - Username and password are case-sensitive.
 - It must be at least eight characters in length.
 - It must have at least one uppercase character.
 - It must have at least one lowercase character.
 - It must have at least one number.
 - It must have at least one special character (valid characters are #, !, \$, &, ?, and ~).
 - Complete the registration information form.
4. Log in to SWIM using your email address and password.
5. Upload a BAS submission:
 - Select the **Start New Upload** button.
 - Select the **BAS** radio button.
 - Select the **Entity** type (State, Place, County, MCD, Tribal Area, or Consolidated City).
 - Select the State and County.
 - Select the **+Add File** button.
 - Select the **.zip file** to upload.
 - Double-click on the **.zip file** to upload. Add additional .zip files in the same manner.
 - Add any additional information to the **Comments** field.
6. Select **Next**. A ‘**Thank You**’ screen will appear.
7. Logout of SWIM.

4.1 Troubleshooting SWIM

If you are having trouble accessing your SWIM account, here are some tips for using SWIM:

- SWIM email addresses and password are case-sensitive.
- If you forgot your password, participants may reset their password using the “Forgot your password?” link on the login page. Follow the prompts to enter the case-sensitive email address and provide the security answer. If the security answer is correct, the SWIM system sends a password reset link to the email account for use in resetting the password. Once logged into SWIM, users can modify their password and security answer by selecting the ‘Change Security’ link at the top, right-hand side of the page.



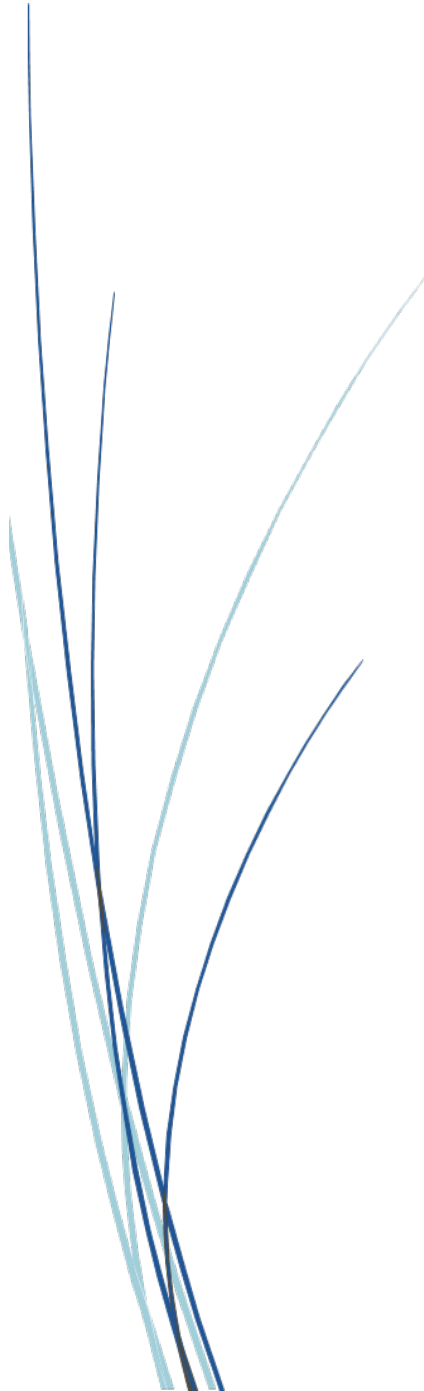
The screenshot shows the SWIM login interface. At the top, it says "Secure Web Incoming Module Please Login". Below that is a welcome message: "Welcome to the Census Bureau's Secure Web Incoming Module (SWIM). The SWIM is the official web portal for uploading partnership materials to the Census Bureau." A note states: "Please note: sessions will expire after 15 minutes of inactivity." There are two input fields: "Email:" and "Password:". Below the password field is a link that says "Forgot your password?", which is circled in red. At the bottom, there are two buttons: "Login" (green) and "Register Account" (grey).

Figure 27. SWIM Login Screen and Password Reset Link

- If you cannot recover your password through the “Forgot your Password?” menus, please email geo.bas@census.gov with the subject line “SWIM Account Assistance” with a brief description of the issue.
- SWIM accounts are specific to users, not to your government so we do not advise sharing an account. You may always request another account for a new BAS Contact.
- If you already created an account through another program such as PSAP, LUCA, or GSS, you do not need another account. You may use the same previously established login information.

Boundary and Annexation Survey Geographic Update Partnership Software How-to Guide

Instructions for Participating in the Boundary and Annexation Survey Using the Geographic Update Partnership Software



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INTRODUCTION

A. The Boundary and Annexation Survey

The Boundary and Annexation Survey (BAS) provides tribal, state, and local governments an opportunity to review the Census Bureau’s legal boundary data to ensure the Census Bureau has the correct boundary, name, and status information. BAS also allows participants to review and provide updates to census designated places (CDPs). Maintaining correct boundaries helps ensure that the Census Bureau assigns the appropriate housing and population counts to each government. Title 13, Section 6, United States Code authorizes this survey.

BAS fulfills the agency’s responsibility as part of the National Spatial Data Infrastructure, for which the Office of Management and Budget (OMB) Circular A–16 designates the Census Bureau as the lead federal agency for maintaining national data about legal government boundaries, as well as administrative and statistical boundaries. BAS supports the geospatial data steward responsibilities of the Geospatial Data Act, the Evidence Act, OMB E-Gov, the Federal Geographic Data Committee, Data.gov, GeoPlatform.gov, the National Map, the Geographic Names Information System, and the Geospatial One-Stop.

The Census Bureau uses the boundaries collected in BAS to tabulate data for various censuses and surveys including the decennial census, American Community Survey (ACS), and Population Estimates Program (PEP). It also uses the legal boundaries collected through BAS to support several other programs such as Congressional and State Legislative redistricting, the Economic Census, the Geographic Update Population Certification Program, and the Special Census program.

B. Key Dates for BAS Respondents

- January 1** Boundary updates must be legally in effect on or before this date to be reported in the current survey year.
- March 1** First BAS deadline - Boundary updates returned by this date will be reflected in the ACS and PEP data and in next year’s BAS materials.
- May 31** Final BAS deadline - Boundary updates returned by this date will be reflected in next year’s BAS materials.

C. Adjacencies and Legal Disputes

The Census Bureau will not make any boundary change that affects adjacent legal governments without the appropriate documentation. Please review any changes that affect adjacent governments to determine if they are intentional legal changes. If the Census Bureau discovers that an area of land is in dispute between two or more jurisdictions, the Census Bureau will not make any boundary corrections until the parties come to a written agreement, or there is a documented final court decision regarding the dispute.

To learn more, please contact the Census Bureau Legal Office at **1-301-763-2918**.

For disputes involving tribal areas, the Census Bureau must defer to the Office of the Solicitor at the Department of the Interior for a legal opinion. Often complicated land issues require an extended period for resolution, and in those cases, the Census Bureau will retain the current boundary in the database until a legal opinion is issued by the Solicitor's office.

D. Contact Us

If assistance is required in preparing your BAS submission or if you are experiencing issues with the Geographic Update Partnership Software (GUPS), please contact the Census Bureau at [<geo.bas@census.gov>](mailto:geo.bas@census.gov) or **1-800-972-5651**.

When emailing [<geo.bas@census.gov>](mailto:geo.bas@census.gov), please include the following details:

- BAS ID and Government Name,
- Level of geography for which you are submitting,
- Contact information such as a phone number or email address,
- Version of GUPS you are using,
- Full text of the error message received as a screenshot or text (if applicable), and
- Screenshots of discrepancies (if applicable).

E. Resources

Additional resources are available on our website. Technical documentation and helpful videos are also available to walk through the BAS submission process.

Technical Documentation

For more technical information about Census Bureau geography, BAS submission information, change types, and shapefiles, see the BAS Technical Guide at [<www.census.gov/programs-surveys/bas/information/respondent-guides.html>](http://www.census.gov/programs-surveys/bas/information/respondent-guides.html).

For supplemental information on functions within GUPS that are specific to QGIS, a QGIS user's manual can be found at: [<http://docs.qgis.org/3.4/en/docs/user_manual/index.html>](http://docs.qgis.org/3.4/en/docs/user_manual/index.html).

GUPS Installation files: [<https://www2.census.gov/geo/pvs/gups/>](https://www2.census.gov/geo/pvs/gups/).

Videos

The Census Bureau created training videos to give BAS participants detailed instructions and information on how to report and submit BAS changes. These videos are available on the BAS website at: [<www.census.gov/programs-surveys/bas/library/bas-videos.html>](http://www.census.gov/programs-surveys/bas/library/bas-videos.html).

CHAPTER 1 GETTING STARTED WITH GUPS

The Geographic Update Partnership Software (GUPS) is a user-friendly geographic information system (GIS) that is customized for each of the Census Bureau’s geographic partnership programs. GUPS features a BAS and Tribal BAS module which offers tools specific to the BAS program and allows participants to create a standardized submission. This allows the Census Bureau to easily process returned BAS files. GUPS is designed to be a digital method to mimic paper map updates, allowing for more accurate digital submissions that are created with imagery and geospatial reference data in mind.

1.1 Downloading and Installing GUPS

GUPS is available for installation two ways: direct download from the BAS website or by request on CD/DVD. GUPS is available for download directly from the BAS website <www.census.gov/programs-surveys/bas/technical-documentation/gups-instructions.html>. To request a CD/DVD, send an email to <geo.bas@census.gov>. If requested, a package will be shipped to the participant that includes a CD/DVD containing GUPS, this How-to Guide in portable document format (.pdf), a read me text (.txt) file, and a CD/DVD containing BAS shapefiles. See section 1.1.2 for step-by-step installation instructions.

Once GUPS is installed, BAS shapefiles can be imported from the BAS website directly to the GUPS application. If a participant requests GUPS software on CD/DVD, the shapefiles are included.

1.1.1 System Requirements

Before beginning the installation, check that the computer has the capabilities needed to run GUPS. GUPS is based on QGIS, a free and open-source desktop GIS application. To learn more about QGIS, visit their website at <www.qgis.org/en/site/>. The GUPS application was developed for use in a desktop PC or a network environment. **Table 1** lists the hardware and software requirements to install and run GUPS.

Table 1: System Requirements for GUPS

Hardware	Operating System
<p>Disk Space Needed to Run GUPS: 4 GB</p> <p>Disk Space Needed to Store Shapefiles: Shapefile sizes vary. To view the size of the shapefiles, right-click, and choose Properties in the drop-down menu. The Files Properties box will open and display the folder size. Select multiple files/folders in the list to view their properties via the same method.</p>	<p>Windows®: To run GUPS, Windows users need one of the following operating systems:</p> <ul style="list-style-type: none">• Windows 10®• Windows 11® <p>Apple®: Mac OS X® users must secure a license for Microsoft Windows and use a Windows bridge. The suggested bridge software is Boot Camp®, which comes pre-installed on all Mac computers. Locate instructions for using Boot Camp at: <www.apple.com/support/bootcamp/getstarted/>.</p>

Hardware	Operating System
<p>RAM: 4 GB minimum, 8 GB or more recommended for optimal performance.</p>	<p>IMPORTANT: Since Boot Camp requires a restart of the computer to set up the bridge, be sure to print the instructions provided at the URL above before beginning installation.</p>

1.1.2 Installing GUPS

GUPS is available for download from the BAS website or from the CD/DVD requested through email. This software should run automatically from the CD/DVD. If it does not, navigate to the CD/DVD drive and begin with Step 2.

1. Unzip the file “gups.zip” and extract all contents of the unzipped package to a folder on the computer.
2. Select the **Setup-x.x.x** batch file to start the installation.
3. When the installer opens, the **Welcome to the QGIS GUPS Setup Wizard** screen will appear. Follow the instructions on the Wizard and select *Next*.
4. The **License Agreement** screen will appear. Review the License Agreement and select *I Agree* to continue the install process.
5. The **Choose Install Location** screen will appear. Select *Browse* to choose the location where GUPS will be installed. It is recommended to install the application at the default location shown (C:\Program Files\QGIS GUPS). Select *Next* to continue the install process.
6. The **Choose Components** screen will appear. The Select Components to Install box will be grayed out as it is the default. Select *Install* to continue.
7. The software should take five to ten minutes to complete the install. When the install is complete, the **Completing the QGIS GUPS Setup Wizard** screen will appear. To complete the install, select *Finish* at the bottom of the screen.

Note: Many agencies/organizations require certain security privileges to download and install external software. Work with your local Information Technology (IT) staff person to acquire those privileges or ask they assist with GUPS installation. Please note that GUPS users with different security privileges than the IT staff person that installed the software will encounter problems accessing the directories and plugins needed to operate GUPS if the software is not installed under the user’s profile. To correct this, have the IT staff person reinstall GUPS under the user’s profile using the user’s credentials. If installation problems remain, [Contact Us](#) for installation assistance.

CHAPTER 2 STARTING A BAS PROJECT

2.1 Creating a Project

Once installed, open GUPS by using the mouse to double-click the QGIS icon that appears after the installation is complete.



Figure 1. QGIS Icon

Once open, you can begin to set up your BAS project.

1. To set up your BAS project, you will use the **Map Management** tool. This tool should open automatically when you open QGIS, however if it does not, you can select the icon that looks like a map with a north arrow.



Figure 2. The Map Management tool on the Standard toolbar

- a. You will use the Map Management tool to set up your workspace and download the Census Bureau's shapefiles for review.

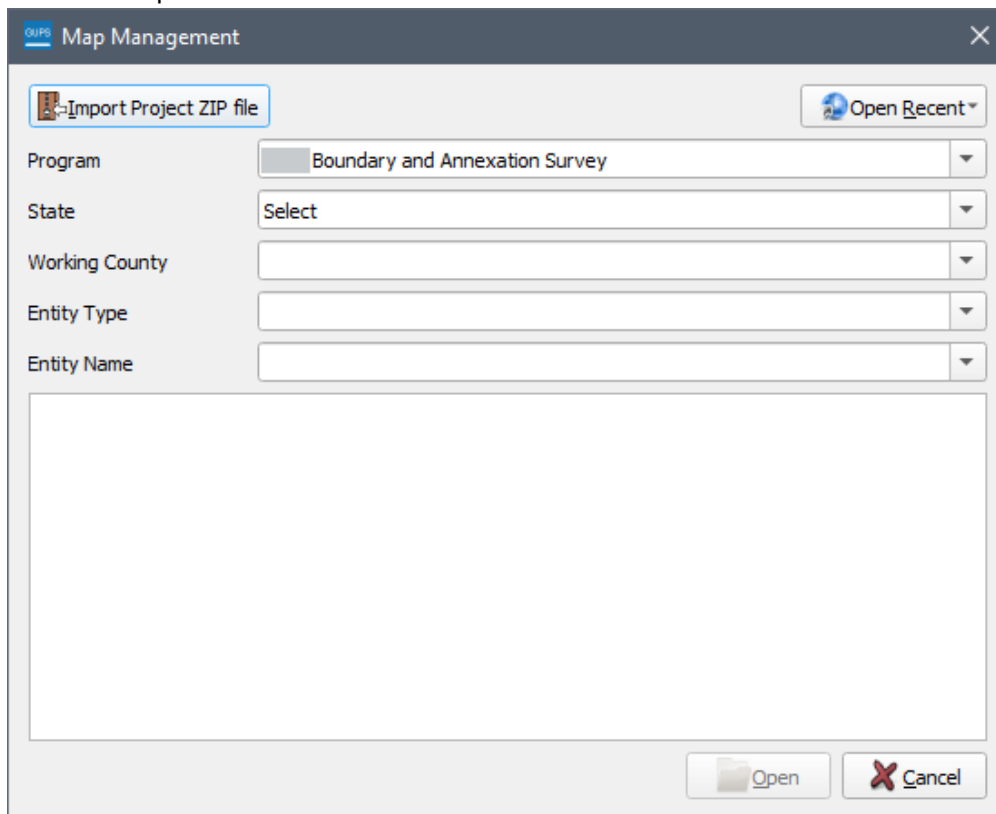


Figure 3. Map Management options for BAS

Note: If you open Map Management and the options are only for previous year’s BAS or Tribal BAS, update your version of GUPS to the current version (section 1.1).

- b. Within the Map Management window, select a Program:
 - i. If you are a non-tribal government, select 2024 Boundary and Annexation Survey and continue with [step c](#).
 - ii. If you are a tribal government, select 2024 Tribal Boundary and Annexation Survey and continue with [step d](#).
- c. For BAS complete the following:
 - i. **State:** The working state your government is within.
 - ii. **Working County:** The working county is the county your government is within. If your government is in two or more counties, you will have to create a project for each county your government is in.
 - iii. A secondary Map Management window appears to select the data source for the working county. The options to import current BAS Partnership Shapefiles into the project include:
 - (1) Census Web: shapefiles directly from the Census Bureau website,
 - (2) CD/DVD: use a disc to import the shapefiles, or
 - (3) My Computer: select shapefiles from a location on your hard drive.See section 2.2 for more information on importing BAS Partnership Shapefiles into the GUPS project.

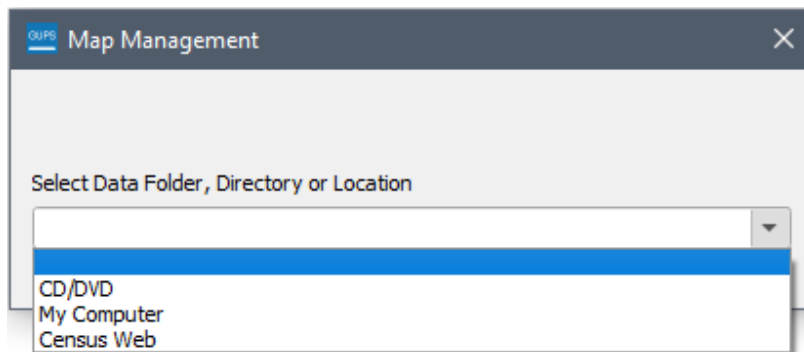


Figure 4: Secondary Map Management window to Select Data Source

- iv. **Entity Type:** the type of the government you are reporting for.
- v. **Entity Name:** the name of the government you are reporting for.
- vi. A list will appear below the chosen government name that contains the names of all the counties in the selected state. The names of the counties that are adjacent to the working county will show up at the top of the list highlighted in yellow. You have the option to check any counties, including the adjacent counties, that you may want to visualize on the map. If your government is in two or more counties, you will want to select the additional county or counties at this time. You will still only be able to make changes inside the working county.

- d. For Tribal BAS complete the following:

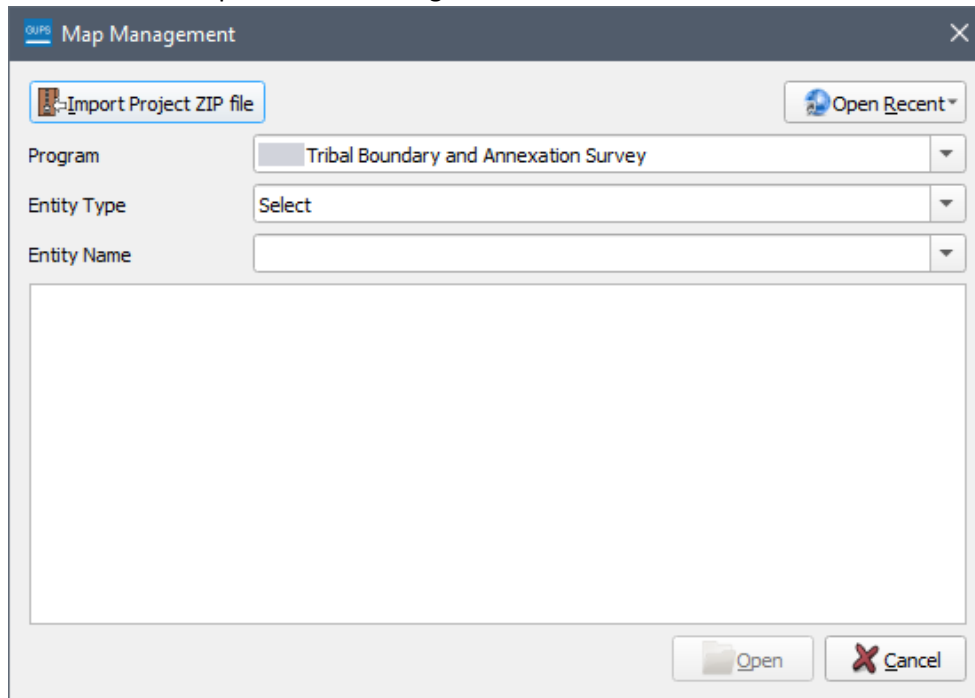


Figure 5. Map Management options for Tribal BAS

- i. **Entity Type:** Alaska Native Regional Corporation, Hawaiian Home Land, or Reservation/Trust Land.

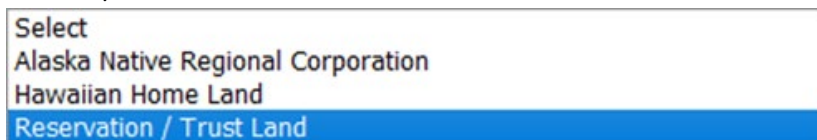


Figure 6. Tribal BAS Entity Type drop down options

- ii. **Entity Name:** Select the name of the area you are reporting changes for from the drop-down menu. This drop-down menu does not include the names of the tribe or tribal governments.
- iii. A dialog box will appear which will allow you to select the data resource for the working entity. The options to import current BAS Partnership Shapefiles into the project include:
- (1) Census Web: shapefiles directly from the Census Bureau website,
 - (2) CD/DVD: use a disc to import the shapefiles, or
 - (3) My Computer: select shapefiles from a location on your hard drive.
- See section [2.2](#) for more information on importing BAS Partnership Shapefiles into the GUPS project.
- iv. A list will appear below the government name that contains the names of all the counties in the selected tribal reservation or trust lands. The names of the counties that are adjacent to the working county will show up at the top of the list highlighted in yellow. You have the option to check any counties, including the adjacent counties, that you may want to visualize on the map.

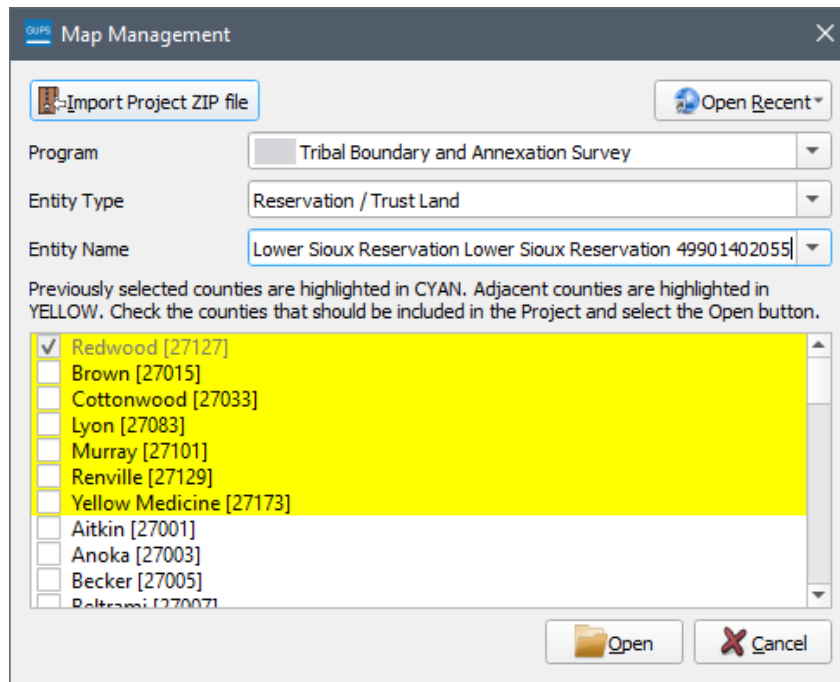


Figure 7. A completed Map Management window with adjacent counties listed in yellow

2. Finally, select **Open** and the Census Bureau data for your government will appear in your map screen.

2.2 Accessing BAS Partnership Shapefiles

This section expands on the options to import current BAS Partnership Shapefiles into your project. The options will appear during Map Management setup after selecting the working county.

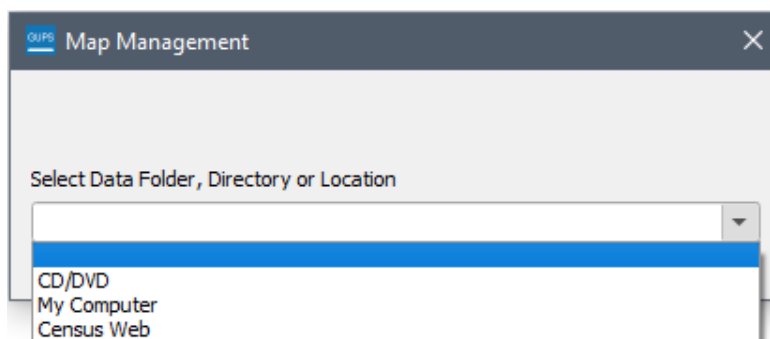


Figure 8. Dialog box for choosing upload options for the Census Bureau Partnership Shapefiles

2.2.1 Census Web (Recommended)

BAS Partnership Shapefiles can be pulled directly into the application from the BAS website when working in GUPS by choosing the Census Web option during project setup. Users can load the shapefiles as needed or load multiple county files at once. This is the preferred method for loading the BAS Partnership Shapefiles into GUPS as it ensures that required files are placed in the correct location for the application to access.

2.2.2 CD/DVD

The GUPS CD/DVD comes preloaded with the required Census Bureau partnership shapefiles. This option is great for limited or no internet access.

When the CD/DVD option is selected, the GUPS application unzips the files and places them into a pre-established folder created on the computer's home directory during the installation process (C:\GUPSGIS\gupsdata\BAS2024\shape). It then displays them in the application and manages the files. There is no need for the user to take any further action.

2.2.3 My Computer

When the My Computer option for loading files is selected, the user must first download the shapefiles from the BAS website. GUPS will then import them after the user selects the folder in which they are located. The Census Web option does this process automatically. To use the My Computer option:

1. Navigate to the BAS Partnership Shapefiles page at www.census.gov/geographies/mapping-files/2024/geo/bas/2024-bas-shapefiles.html.
2. Under '2024 Partnership Shapefiles' in the 'Select a Geography' drop-down box, select the name of the state in which the government is located from the drop-down list.
3. Select the county(ies) or county equivalent(s) needed by choosing the box next to it. Up to five (5) counties may be selected at one time. Once the counties selection is complete, select **Submit** at the bottom left-hand side of the page. Tribal BAS participants should download any counties within their working area.

The screenshot shows the 'Maryland Partnership Shapefile Batch Download' page. At the top, there is a navigation bar with the Census Bureau logo and a breadcrumb trail: 'You are here: Census.gov > Geography > Partnerships > Maryland Partnership Shapefile Batch Download'. Below the navigation bar is a 'Geography' section with a menu containing 'Main', 'About', 'Maps & Data', 'Reference', 'Partnerships', 'Education', 'GSS', and 'Contact Us'. The 'Partnerships' section is active, showing a list of links on the left: 'Partnerships Main Page', 'American Indian and Alaska Native Programs', 'Boundary and Annexation Survey', 'Federal Register Notices', 'School District Review Program', 'Local Update of Census Addresses Operation', '2010 Participant Programs', and '2000 Participant Programs'. The main content area is titled 'Maryland Partnership Shapefile Batch Download' and contains the instruction: 'Please select up to 5 individual counties to download the shapefiles for those counties.' Below this instruction is a list of 20 Maryland counties, each with an unchecked checkbox and its name followed by its FIPS code in parentheses. The counties are: Allegany County (24001), Anne Arundel County (24003), Baltimore City (24510), Baltimore County (24005), Calvert County (24009), Caroline County (24011), Carroll County (24013), Cecil County (24015), Charles County (24017), Dorchester County (24019), Frederick County (24021), Garrett County (24023), Harford County (24025), Howard County (24027), Kent County (24029), Montgomery County (24031), Prince George's County (24033), Queen Anne's County (24035), St. Mary's County (24037), Somerset County (24039), Talbot County (24041), Washington County (24043), Wicomico County (24045), and Worcester County (24047). At the bottom of the form, there are 'Submit' and 'Reset' buttons.

Figure 9. The Partnership Shapefile Batch Download Page

4. A prompt to save the file(s) appears. This prompt will look different depending on which browser is used.

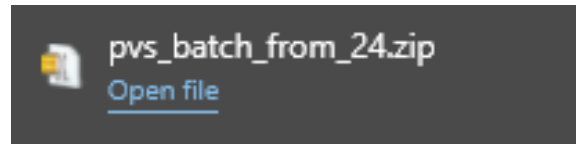


Figure 10. Example of the downloaded zip file in Edge browser

5. Select the down arrow next to Save and select 'Save As' in the drop-down list. The Save As dialog box appears, with the file appearing in the File Name field. If more than one county was selected, a single zip file containing the selected counties is saved.

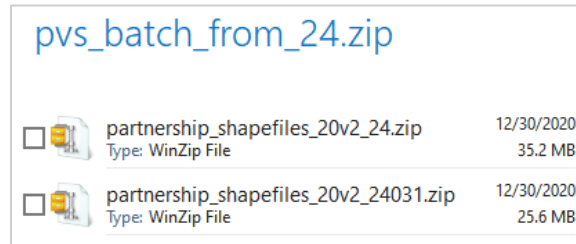


Figure 11. Nested zip files

Note: The BAS year used in screenshots throughout this document may vary, however, functionality remains the same.

6. In the Save As dialog box, select a location in the home directory to save the files.
7. Select **Save** to save the files in the selected location.
8. To obtain shapefiles for additional counties, repeat the download process as needed.
9. Unzip all the zip files to your working folder.
10. When the geography is selected in GUPS, the application asks to specify the location. Select 'My Computer'. When a selection is made, GUPS asks to select a directory. Navigate to the location where the files were saved and select those to be uploaded. GUPS loads the files, then moves them to the pre-established folder in the home directory.

2.3 GUPS Overview

Once the project is loaded and open, review the current Census Geography in the map to find areas that need to be updated.

BAS participants can use the BAS Module in GUPS to:

- Add, delete, and modify legal governments (Counties [and equivalent areas], Minor Civil Divisions (MCDs), Incorporated Places, and Consolidated Cities).
- Add, delete, and modify CDPs.
- Add, delete, and modify linear features (roads, railroads, and hydrography).
- Add, delete, and modify area landmarks, hydrographic areas, and point landmarks.
- Provide address data for newly annexed areas.

Tribal BAS participants can use the Tribal BAS Module in GUPS to:

- Add, delete, and modify legal governments (Federally Recognized Reservation and Off-Reservation Trust lands, and Tribal Subdivisions).
- Add, delete, and modify CDPs.
- Add, delete, and modify linear features (roads, railroads, and hydrography).
- Add, delete, and modify area landmarks, hydrographic areas, and point landmarks.
- Provide address data for newly added areas.

2.3.1 Adding Local Data

To import your own imagery, geodatabase, shapefiles, web mapping service, or other data layers into GUPS use the **Add Data** toolbar.



Figure 12. Add Data toolbar

Although shown in a horizontal position in [Figure 12](#), the **Add Data toolbar** appears arranged vertically to the left of the Layers Panel in GUPS. Its tools are described in [Appendix A](#).

To add a vector layer, such as a shapefile or geodatabase layer from the local computer:

1. Select the **Add Vector Layer** tool on the **Add Data toolbar**. The **Add Vector Layer** dialog box opens.



Figure 13. Add Vector Layer tool

2. In the Encoding drop-down menu, the default value is 'system'.
3. Select the ellipses and navigate to the folder where the shapefile or geodatabase is saved on the computer.
4. Left-click the file to be uploaded, then select **Add**. The shapefile/geodatabase is added to the Layers Panel and to the Map View.

Users can also add data from Web Mapping Services (WMS), raster-based imagery, and other data types using the corresponding tools on the Add Data toolbar. Refer to the QGIS help page for instructions on these options.

CHAPTER 3 GEOGRAPHIC REVIEW AND UPDATE

At this point, users may want to take a cursory review of their boundary as it is, noting where adjustments are required, or linear features need to be added or removed. Common changes include annexations, or additions of land to a government, deannexations, or deletion of land from a government, and boundary corrections. When reporting or creating legal changes such as annexation or deannexation polygons, you will need to have available the following information:

- The change type,
- authorization type,
- effective date,
- documentation numbers, and
- area in acres, if available.

Refer to section [3.2](#) for more information on legal change updates.

Note: Boundary corrections do not require any legal documentation (see section [3.3](#) for more information).

3.1 Creating Change Files

The first two tools to get comfortable with are the **Add Linear Feature** tool and the **Modify Area Feature** tool. The **Modify Area Feature** tool works by selecting faces, polygons bounded by linear features such as road and water features, as well as nonphysical boundaries such as parcel lines, cadastral features, etc. If the area you wish to add or remove is not already bounded by features, you will need to do two steps:

1. Create the sides of the polygon using the **Add Linear Feature** tool on the **BAS toolbar** (section [3.4](#)).
2. Add or remove the area using the **Modify Area Feature** tool (section [3.3](#)).

Use steps 1 and 2 to create the changes necessary to update the boundary. This will create a change file to review and submit to the Census Bureau.

3.2 Legal Changes

The primary goal of BAS is to document legal boundary changes. Legal boundary change submissions from incorporated places, MCDs, and counties must provide an authorization number, such as a resolution or ordinance number, authorization type, and effective date.

3.2.1 Documentation for Legal Tribal Changes

The Census Bureau is responsible for depicting reservation and off-reservation trust land boundaries, but because the Census Bureau is not the authority on the boundaries, documentation is required to update reservation and off-reservation trust land boundaries.

The following changes require documentation:

- New off-reservation trust land.
- New reservation land.
- Changes from off-reservation trust land to reservation land and changes from reservation land to off-reservation trust land.
- Large changes to existing off-reservation trust land.
- Large changes to existing reservation land.
- Boundary corrections to off-reservation trust land or reservation land that do not follow the general shape of the boundary.

For off-reservation trust land, the most common documentation is a trust deed or a letter from the Bureau of Indian Affairs (BIA). Documents should state that the land is “in trust” for the tribe.

For reservation land, documentation examples include (but are not limited to) federal register notice, Act of Congress, Executive Order, or a new legal opinion issued by the BIA. When submitting large boundary corrections to an existing reservation, please submit the reservation document.

If no documentation is available, please contact the tribe’s regional BIA office to obtain documentation. The Census Bureau will treat legal opinions issued in writing from the BIA as documentation since the BIA is the authority on reservation and off-reservation trust land boundaries. If the Census Bureau cannot interpret a document, such as a treaty, the Census Bureau will contact the BIA for assistance.

For questions about documentation, please contact us. To contact the BIA, please reach out to the nearest regional office, see <www.bia.gov/regional-offices>.

3.2.2 Creating Legal Changes

Once you know the faces you want to add or remove from the government, use GUPS to create and submit legal boundary changes by:

1. Select the **Modify Area Feature** tool on the **BAS toolbar** to activate the tool.



Figure 16. Modify Area Feature tool on the BAS toolbar

2. Select the **Geography** type from the drop-down menu.

3. Select the entity to modify in the **Info** box.

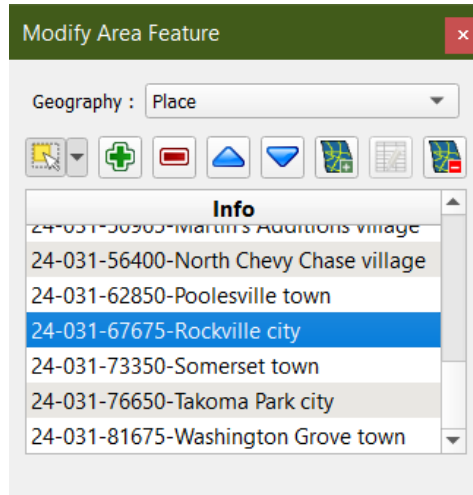


Figure 17. Modify Area Feature window

4. Select the **Select Features** tool in the **Modify Area Feature** window to activate the select tool, the yellow square and cursor icon.

3.2.3 Adding Area Through Legal Change

To add an annexation or addition to a government as a legal change:

1. Select the faces to modify.
2. Select the **Add Area** tool to add the faces to the selected entity.



Figure 18. Add Area tool in the Modify Area Feature window

3. Select **Legal Change** as the change type in the dialog box and select **OK**.
4. Complete the required fields for the **Create Change Polygons** dialog box.

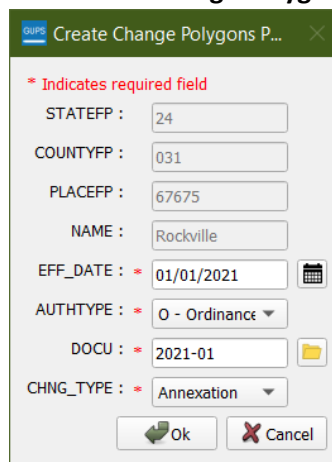


Figure 19. Create Change Polygons window for legal changes

- a. **EFF_DATE**: Add the effective date for the legal change. Select the calendar icon next to the EFF_DATE field and, when the calendar opens, choose the effective date. The date selected populates the EFF_DATE field.

- b. **AUHTYPE**: Add the authorization type using the drop-down menu.
 - c. **DOCU**: Either type in the ordinance or other legal documentation number authorizing the new entity in the DOCU field, or upload documentation for the change. For BAS use the document number, the document is not required. For Tribal BAS, upload the document or the reference to the law etc. To upload documentation, select the folder icon next to the DOCU field.
 - d. **CHNG_TYPE**: Choose the change type in the drop down.
5. Select **OK**. This will create a change in the changes file for the geography selected.
 6. Selecting **Cancel** will save the change as a boundary correction.

3.2.4 Removing Area Through Legal Change

To remove an area from a government as a deannexation, or deletion through a legal change:

1. Select the faces to be marked for removal.
2. Select the **Remove Area** tool to mark the faces to be removed from the selected government.



Figure 20. Remove Area tool in the Modify Area Feature window

3. Select **Legal Change** as the change type in the dialog box and select **OK**.
4. Complete the required fields for the **Create Change Polygon** dialog box.
 - a. **EFF_DATE**: Add the effective date for the legal change. Select the calendar icon next to the EFF_DATE field and, when the calendar opens, choose the effective date. The date selected populates the EFF_DATE field.
 - b. **AUHTYPE**: Add the authorization type using the drop-down menu.
 - c. **DOCU**: Either type in the ordinance or other legal documentation number authorizing the removal in the DOCU field, or upload documentation for the change. For BAS use the document number, the document is not required. For Tribal BAS, upload the document or the reference to the law etc. To upload documentation, select the folder icon next to the DOCU field.
 - d. **CHNG_TYPE**: Choose the change type in the drop down.
5. Select **OK**. This will create a change in the changes file for the geography selected.
6. Selecting **Cancel** will save the change as a boundary correction.

3.3 Boundary Corrections

A boundary correction is the adjustment of a boundary to correct an error in how the Census Bureau depicts an existing boundary. Boundary corrections should follow the general shape of the existing boundary. For both BAS and Tribal BAS, legal documentation is not required when submitting a boundary correction to the Census Bureau.

To create boundary corrections using GUPS:

1. Select the **Modify Area Feature** tool on the **BAS toolbar**.
2. Select the **Geography** type from the drop-down menu.

3. Select the entity to modify in the **Info** box.

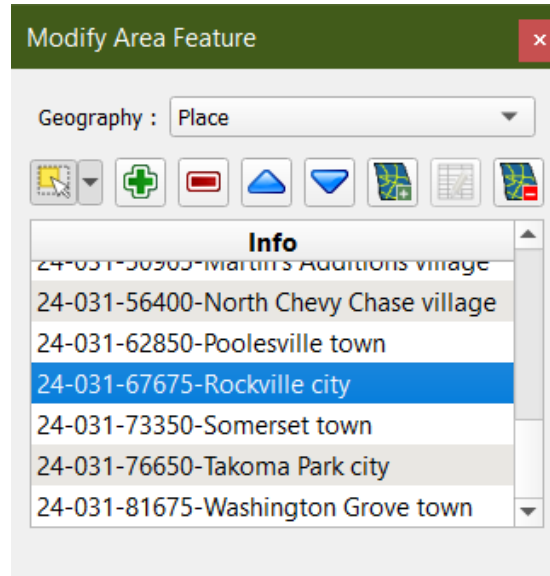


Figure 21. The Modify Area Feature window with the geography type and government selected

4. Choose the **Select Features** tool in the **Modify Area Feature** window to activate the select tool.
5. Select the **Add Area** tool to add the faces to the selected geography or the **Remove Area** tool to remove the faces from the selected geography.
6. Select **Boundary Correction** as the change type in the dialog box and select **OK**.

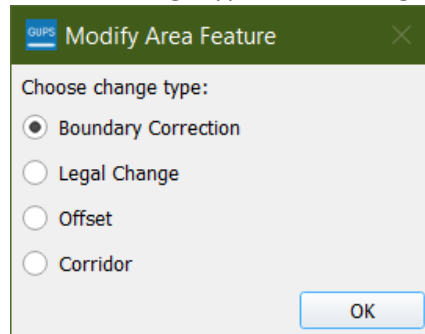


Figure 22. Modify Area Feature change type dialog box

3.4 Linear Features

It is important that Census Bureau data reflects the most recent linear features to ensure that new or previously missed housing units located along these features are identified and located. Linear features include visible features such as roads, railways, water features like rivers, creeks, and coastlines, but also non-visible features such as property lines and survey lines.

When reviewing linear features (edges layer) on the BAS shapefiles, first determine whether any features are missing or need to be deleted. Pay particular attention to areas that have experienced recent population growth or construction activities, as these are the most likely to possess new or altered linear features (e.g., new subdivisions, traffic circles converted to straight ways, or privately maintained roads that serve as public streets, but exclude private

driveways). Attribute updates (e.g., name, class code, and address ranges) may also be added for selected features.

You will use the Linear Feature tools on the **BAS toolbar** to add, remove, or modify linear features in the project.

3.4.1 Adding Linear Features

1. Select the **Add Linear Feature** tool on the **BAS toolbar**.
2. To digitize the linear feature, left-click the mouse at the starting point of the line and continue to left-click the mouse at each vertex of the line. When the new line is completed, right-click the mouse. The right-click tells GUPS to finish drawing and the **Add Linear Feature** dialog box will open.

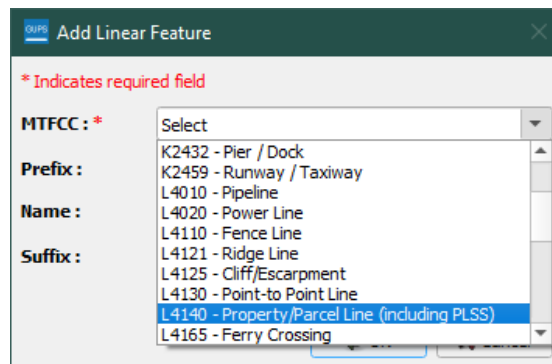


Figure 23. Add Linear Feature Dialog Box

3. Select the MTFCC that corresponds to the type of linear feature being added.
 - a. If you are creating the sides of a polygon to add or remove area from an entity, use MTFCC P0001 – Nonvisible Legal/Statistical Boundary.

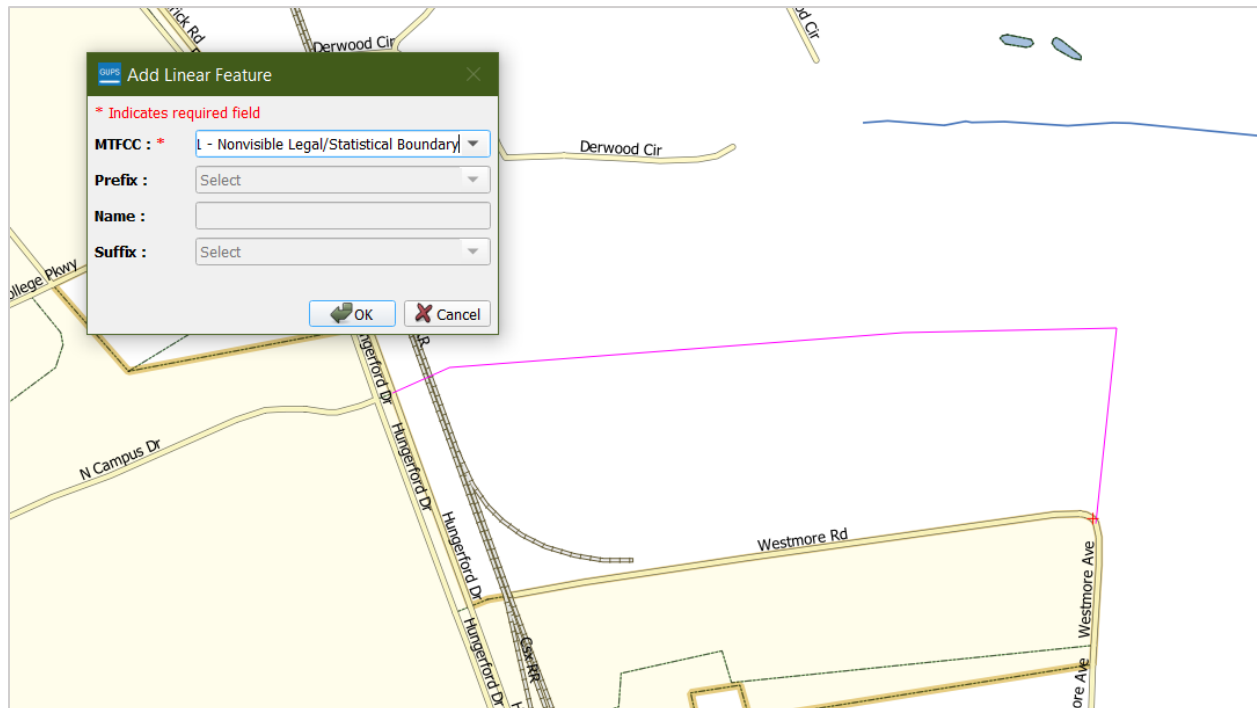


Figure 24. Adding a boundary line in GUPS as a Nonvisible Legal/Statistical Boundary line

- Update the Prefix, Name, and Suffix fields as applicable. Name is a required field for primary and secondary roads.
- Select **OK** to complete the transaction. The newly digitized linear feature will appear with its corresponding symbology.

3.4.2 Deleting and Restoring Linear Features

To mark a feature for deletion:

- Select the **Delete/Restore Linear Feature** tool on the **BAS toolbar** to activate the tool.



Figure 25. Delete/Restore Linear Feature tool on the BAS toolbar

- Select the linear feature to mark for deletion. A **Delete/Restore Linear Feature** dialog box will open.
- Confirm the action by selecting **OK**.
- The linear feature will appear with an “X’d out” symbology to show it has been marked for deletion.



Figure 26. X'd out symbology of a linear feature marked for deletion

To restore a linear feature marked for deletion:

- Select the **Delete/Restore Linear Feature** tool on the **BAS toolbar** to activate the tool.
- Select the linear feature to restore. A **Delete/Restore Linear Feature** dialog box will open.
- Confirm the action by selecting **OK**.
- The “X’d” out symbology will be removed from the linear feature.

3.4.3 Modifying Linear Feature Attributes

- Select the **Modify Linear Feature Attributes** tool on the **BAS toolbar** to activate the tool.



Figure 27. Modify Linear Feature Attributes tool on the BAS toolbar

- Select the linear feature to modify. A **Modify Linear Feature Attributes** dialog box will open.
- Update the MTFCC, NAME, and/or Address Ranges in the dialog box.

4. Confirm the action by selecting **Save**.

* Indicates required field

TLID : 194772920

MTFCC : * S1400 - Local Neighborhood Road, Rural Road, City Street

FULLNAME : 39th Ave

LFROMADD : 79936 RFROMADD : 79937

LTOADD : 79998 RTOADD : 79999

Save Cancel

Figure 28. Modify Linear Feature Attributes dialog box

3.5 New Incorporations and Disincorporations

In the BAS module in GUPS, you can add a new government and disincorporate an existing government using the **Modify Area Feature** tool. Tribal BAS does not have this functionality for certain geography. If you are a tribal participant wanting to completely remove reservation or trust land, Contact Us. The **Add Entity** tool and **Remove Entity** tool are available for the following geographies:

- New reservation and off reservation trust lands,
- Tribal Subdivisions,
- Incorporated Places,
- MCDs,
- CDPs, and
- Area Landmarks.

3.5.1 New Incorporations

To add a new government in GUPS:

1. Open in Map View the county where you want to add a new government.
2. Select the **Modify Area Feature** tool on the **BAS toolbar**.
3. The **Modify Area Feature** dialog box opens.

4. Select the drop-down arrow next to the **Geography** field and select the government type to add from the drop-down menu. In this example a newly incorporated city is added, so 'Place' is selected. The place appears in the **Geography** field and a list of all incorporated places in the county appears in the **Info** list.

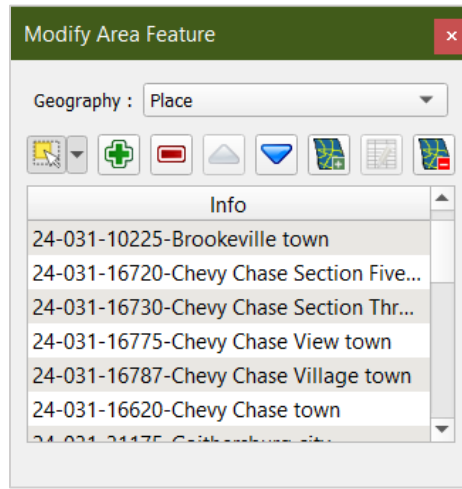


Figure 29. Modify Area Feature tool

5. Zoom to the location where the new government is located. To select the faces for the government, left-click once on the **Select Features** tool on the dialog box toolbar.
6. Choose a spot on the map to select the face or faces.
 - a. If the government includes only a single face, simply left-click once on the face to select it. If the government includes several contiguous faces, after selecting the first face, depress the CTRL key and while holding it down, left-click on each additional face to be added. The selected faces turn cyan.
 - b. Because all geographic areas consist of faces, you may need to split a face to accurately reflect a government's boundary. To split a face, digitize a new line that represents the boundary's location (see section 3.4 for instructions to add a linear feature) and assign it the appropriate MTFCC. This splits the original face into two faces. Now select the face to add to the new entity.
7. To record the new entity, select the **Add Entity** tool on the dialog box toolbar.

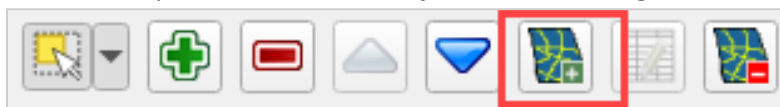


Figure 30. The Add Entity tool on the dialog box toolbar

8. The **Modify Area Feature** dialog box opens.

The screenshot shows a dialog box titled "GUPS Modify Area Feature". It contains the following fields and values:

- STATEFP : 24
- COUNTYFP : 031
- NAME : * New Place
- LSAD : * city (suffix)
- EFF_DATE : * 01/01/2021
- AUTHTYPE : * L - Local Law
- DOCU : * 2021-01

At the bottom of the dialog box are "Ok" and "Cancel" buttons. A red asterisk next to the field labels indicates they are required.

Figure 31. Modify Area Feature tool example for new incorporation, "New Place"

9. In the dialog box, complete the following fields:
- NAME:** Type the new legal government name in the Name field.
 - LSAD:** The Legal/Statistical Area Description. See the BAS Technical Guide at www.census.gov/programs-surveys/bas/information/respondent-guides.html for more information.
 - EFF_DATE:** Add the effective date for the legal change. Select the calendar icon next to the EFF_DATE field and choose a date on the calendar. The date selected populates the EFF_DATE field.
 - AUTHTYPE:** Add the authorization type using the drop-down menu.
 - DOCU:** Upload documentation for the new incorporation. To upload documentation, select the folder icon next to the DOCU field.

Note: Red asterisks indicate required fields. Required fields must be completed to move forward. If one or more required fields are not completed and the OK button is selected, GUPS will prompt the user to complete the fields. Any required field not completed will highlight in red.

10. Select **OK**. The faces for the new entity turn purple on the map (colors may vary) and the name of the new entity appears in the list of incorporated places in the **Modify Area Feature** dialog box.

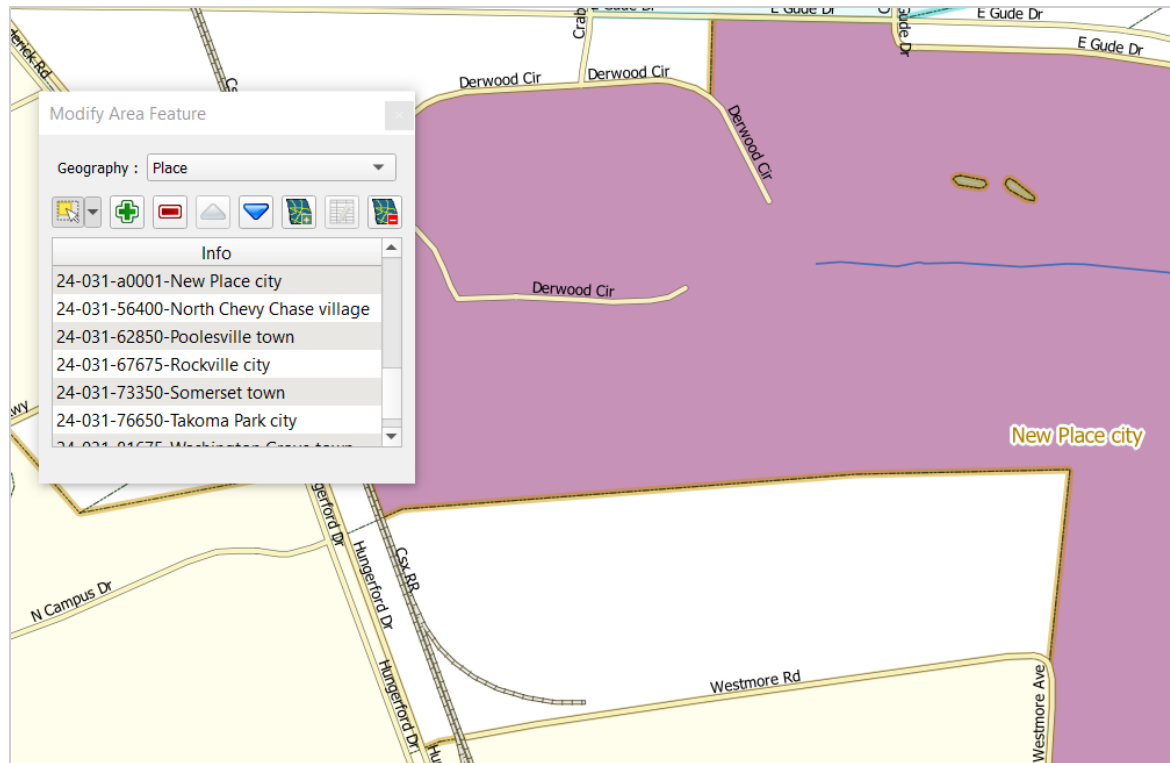


Figure 32. An example for a new government "New Place" symbology and placeholder Federal Information Processing Standards (FIPS) code

Once the Census Bureau verifies the new government, an official FIPS code will be assigned. The code preceding the new government name in the list is not a FIPS code and should not be used for any official purpose. It is only a placeholder until the official FIPS code can be assigned. To make additional changes to the map, simply make a new selection in the **Geography** field of the **Modify Area Feature** dialog box and continue work. Save the project frequently.

Note: If the new government crosses a county boundary, it must be added in both counties separately. After making the change in the working county, return to Map Management, select the other county as the working county, and proceed to add the new government in this county as well. If the added government crosses more than one county boundary, complete the addition in each county affected.

3.5.2 Disincorporations

The **Delete Area** feature is available for the following geographies:

- Incorporated Places,
- CDPs, and
- Area Landmarks.

To mark a government for disincorporation or deletion:

1. Open in **Map View** the county that contains the government to delete. Be sure that all layers needed are checked in the Layers Panel.
2. Select the **Modify Area Feature** tool on the **BAS toolbar**.
3. The **Modify Area Feature** dialog box opens.
4. Select the drop-down arrow next to the **Geography** field and select 'Place' in the drop-down menu.
5. Place appears in the **Geography** field and a list of all incorporated places in the county appears in the Info list.
6. Choose the government in the list you want to mark for the disincorporation. The map zooms to the selected government.
7. Select the **Delete Area Feature** tool on the toolbar inside the **Modify Area Feature** dialog box.



Figure 33. The Delete Area Feature tool in the dialog box toolbar

8. A **Modify Area Feature** dialog box will box up. Complete the following fields:
 - a. **EFF_DATE**: Add the effective date for the legal change. Select the calendar icon next to the EFF_DATE field and choose a date from the calendar. The date selected populates the EFF_DATE field.
 - b. **AUTHTYPE**: add the authorization type using the drop-down menu.
 - c. **DOCU**: Upload documentation for the disincorporation. To upload documentation, select the folder icon next to the DOCU field.

Figure 34. The Modify Area Feature box for Delete Area Feature tool

9. A pop-up asks, 'Are you sure you want to delete this area feature?'

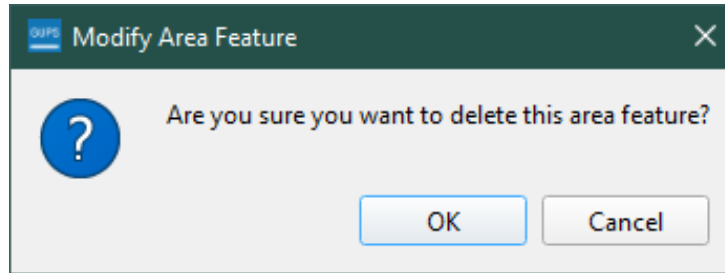


Figure 35. Confirmation of area feature deletion

10. Select **OK**. The disincorporated government turns gray on the map (color may vary), and it is removed from the list of incorporated places in the county.

To make additional changes to the map, simply make a new selection in the Modify Area Feature dialog box Geography field and continue work.

Note: If the deleted government crosses a county boundary, it must be deleted in both counties separately. After making the change in the working county, return to Map Management, select the other county as the working county, and proceed to delete the government in this county as well. If the deleted government crosses more than one county boundary, complete the deletion in each county affected.

3.6 Census Designated Places (CDPs)

GUPS will now allow updates to CDPs in the BAS module. CDPs will appear in the map symbolized by estimated population and housing unit criteria. Blue areas meet the minimum criteria, red areas do not meet the minimum criteria, and gray areas show CDPs marked for deletion.

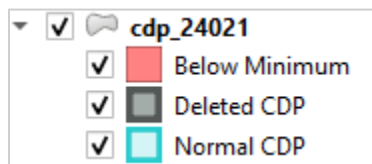


Figure 36. Symbolization of CDPs on the map

3.6.1 Creating CDP Changes

1. Select the **Modify Area Feature** tool on the **BAS toolbar** to activate the tool.

2. Select the **Geography** type from the drop-down menu as **Census Designated Place (CDP)**.

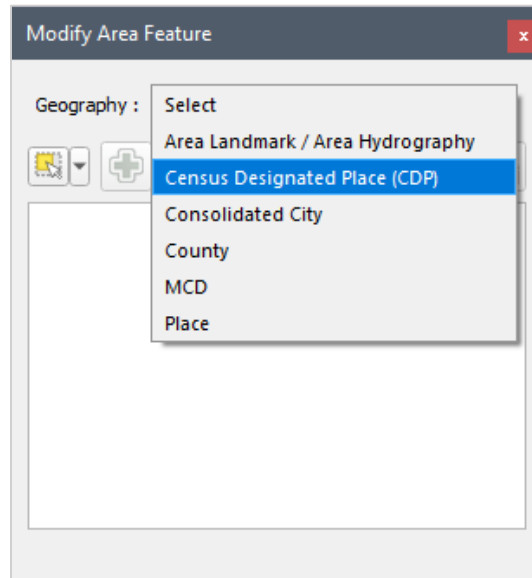


Figure 37. Modify Area Feature tool, select Geography as Census Designated Place (CDP).

3.6.2 Adding Area To a CDP

1. Select the entity to modify in the **Info** box.
2. Select the **Add Area** tool to add the faces to the selected entity.
3. Select the **Select Features** tool in the **Modify Area Feature** window to activate the select tool, the yellow square and cursor icon.
4. Select the faces to add.
5. Select the **Add Area** tool to add the faces to the selected entity.

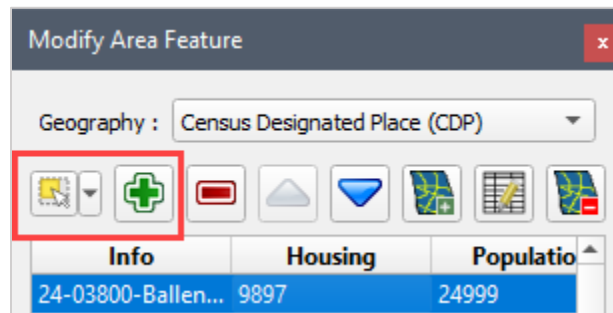


Figure 38. The Add Area tool is a green plus sign

3.6.3 Removing Area From a CDP

1. Select the entity to modify in the **Info** box.
2. Select the **Select Features** tool in the **Modify Area Feature** window to activate the select tool, the yellow square and cursor icon.
3. Select the faces to remove.

4. Select the **Remove Area** tool to add the faces to the selected entity.

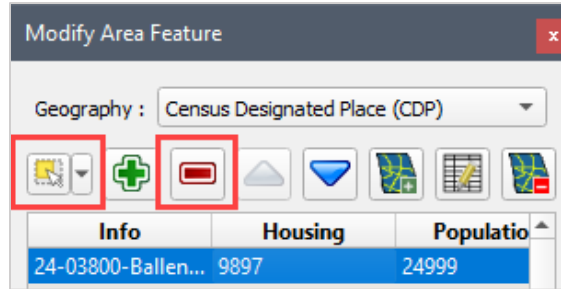


Figure 39. The Remove Area tool is a red minus sign

3.6.4 Creating a New CDP

1. Select the **Select Features** tool in the **Modify Area Feature** window to activate the select tool, the yellow square and cursor icon.
2. Select faces on the map to create the area of the new CDP.
3. Select the **Add Entity** tool in the Modify Area Features window.

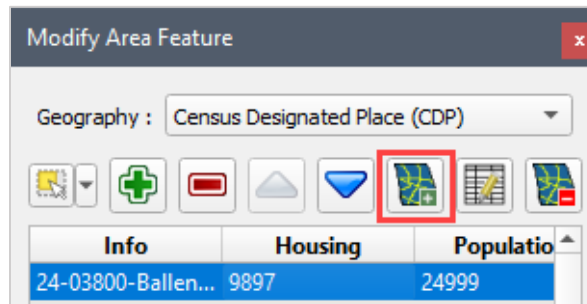


Figure 40. Select the Add Entity tool to create a new CDP

4. A pop-up will show if the area selected does not meet minimum requirements for a CDP. If this occurs, you can continue to create the CDP by selecting “Yes” or cancel the action by selecting “No”.

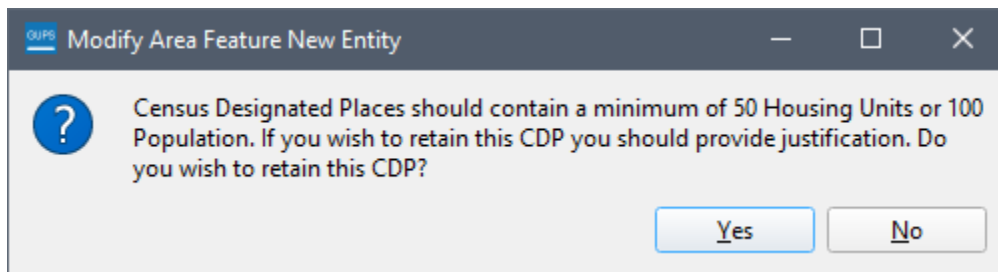


Figure 41. The pop-up shows if an area does not meet minimum requirements for a CDP

5. If you select Yes to continue, or do not receive the popup, a new **Modify Area Feature** window will appear. Complete the following fields:
 - a. **NAME:** Name of the CDP,
 - b. **LSAD:** The Legal/Statistical Area Description for CDPs will always be CDP, and

- c. **JUSTIFY:** Select from the drop down a justification for a CDP that may not meet minimum population or housing unit criteria.

Figure 42. Modify Area Feature window for a new CDP

- 6. Add or remove faces as needed to create the new CDP. The new CDP will appear in the **Info** box in the **Modify Area Feature** window.
- 7. Save the project.
- 8. Run the **BAS Criteria Review Tool**.



Figure 43. The BAS Criteria Review tool icon in the BAS toolbar

- 9. The **BAS Criteria Review** window will appear if there are any CDPs that may not meet the minimum criteria.

Criteria Fail	Fix	Justify
Point of Rocks CDP: has non-contiguous entities.	Fix	

Figure 44. The BAS Criteria review tool shows where a CDP may not meet minimum criteria

10. Select **Fix** to address the issue in the map or select a **Justification** for an exception. The errors in red must be addressed before the export, the errors in orange must be fixed or justified before export, and the blue errors are informational only and do not need to be addressed before export.
11. Once the issues have been addressed, or if no issues were found, the BAS Criteria Review Tool will pop up a confirmation window.

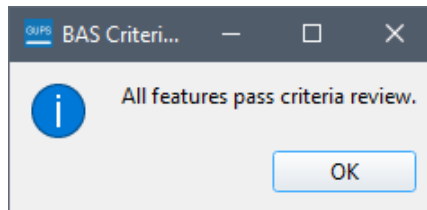


Figure 45. Confirmation window for CDP Criteria

3.6.5 Deleting an Existing CDP

1. Select the CDP to delete in the **Info** box.
2. Select the **Delete Area Feature** tool.

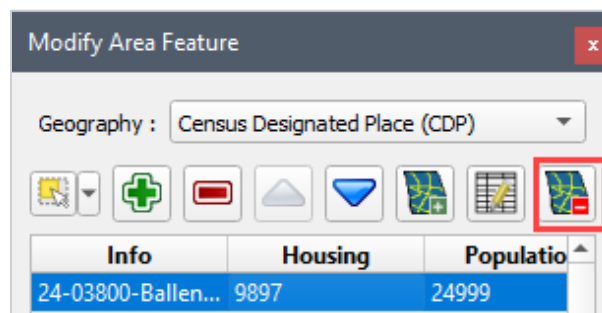


Figure 46. Delete Area Feature tool

3. A confirmation window will appear.

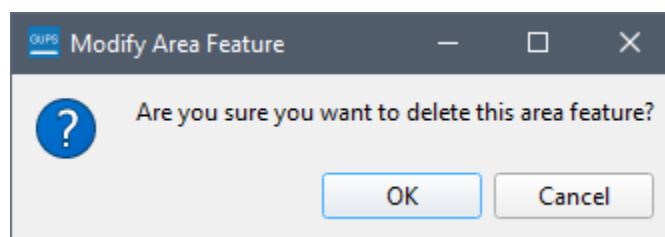


Figure 47. Deletion confirmation window

Upon deletion, the CDP will appear gray in the map.

3.7 Point Landmarks

GUPS has the option to add, delete, and modify point landmarks. These include traffic circles, airports, cul-de-sacs, etc.



Figure 48. The Add, Modify, and Delete Point Landmarks tools

3.7.1 Adding a Point Landmark

1. Open the project in Map View. Be sure the 'Point Landmark' layer is checked in the **Layers Panel**.
2. Select the green **Add Point Landmark** tool on the **BAS toolbar**.
3. Select a spot on the map where you would like to add the new point landmark.
4. Type in the name for the new point landmark in the **FULLNAME** field. Then select the down arrow next to the **MTFCC** field to open the drop-down menu.

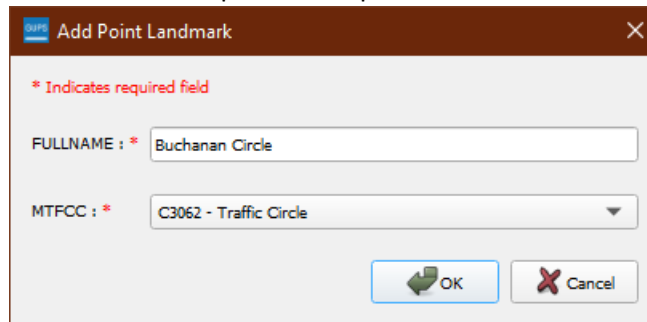


Figure 49. The Add Point Landmark dialog box

5. Select the MTFCC, then select the **OK** at the bottom of the box.
6. The map updates to show the added point landmark. In this case, a traffic circle was added and named Buchanan Circle.

3.7.2 Deleting a Point Landmark

1. Zoom to the area on the map where a point landmark will be deleted.
2. Select the **Delete Point Landmark** tool the **BAS toolbar**.



Figure 50. The Delete Point Landmark tool

3. On the map, select the point landmark to delete. The **Delete Point Landmark** dialog box opens and asks to confirm the deletion of the point landmark.

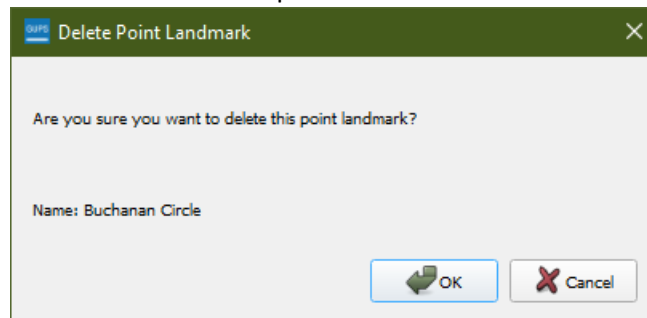


Figure 51. Delete Point Landmark window

4. Select **OK**. The point landmark shows a red x over it and marked in the attribute table.

3.7.3 Modifying Point Landmark Attributes

1. Zoom to the area on the map where the point landmark is located.
2. Select the yellow **Edit Point Landmark** tool on the **BAS toolbar**.



Figure 52. The Edit Point Landmark tool

3. On the map, select on the point landmark to edit. The **Edit Point Landmark** dialog box opens.

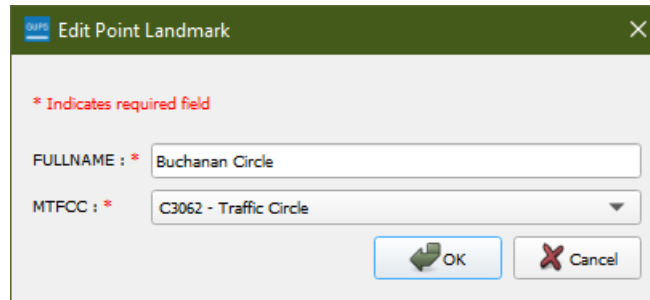


Figure 53. The Edit Point Landmark dialog box

4. To change the name, backspace over the name that appears in the **FULLNAME** field, then type in the new name.
5. Select **OK**. The new name of the point landmark appears on the map.

3.8 Quality Checks

GUPS features two built in quality control checks that must be run before exporting the file, the **Small Area Check** tool, and the **Find Holes** tool. An error will appear if you try to export the file without running these checks.

1. Save the project.
2. Select the **Review Change Polygons** tool on the **BAS toolbar**.



Figure 54. The Review Change Polygons tool on the BAS toolbar

3. The **Review Change Polygon** tool will appear in a popup box.
4. Select the Small Area Check.
 - a. The Small Area Check tool finds small changes that may not meet the 30-foot minimum guideline.
 - b. Choose the results record and zoom to the identified issue. Correct the issue by using the tools on the **BAS toolbar**. You can either remove, modify, or accept the change.
5. Select the **Find Holes** check.
 - a. The Find Holes tool finds faces that may have been missed when adding or modifying an area feature.

- b. Choose on the results record and zoom to the identified issue. Correct the issue by filling the hole using the **Fix** button.

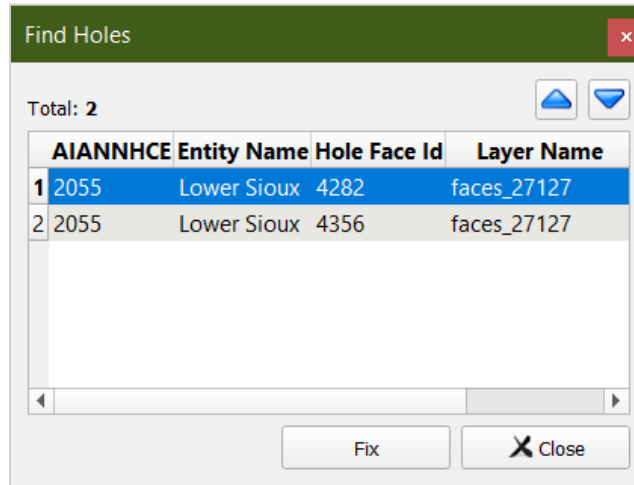


Figure 55. An example of the Find Holes tool in the Tribal BAS module

6. If there are no issues found during the quality checks, you are ready to export your files.

3.9 Exporting Changes to ZIP

Once you’ve created and reviewed any changes, you have two options to export the changes—exporting the file to share with another participant or exporting the file for submission to the Census Bureau. In either case, GUPS automatically names the output zip file. It packages all the files required by the Census Bureau (including any documentation uploaded) into the zip file and saves it in a preset location created on the computer during the installation process.

Create Return ZIP Files

1. Select the **Export to ZIP** icon on the **BAS toolbar**.
2. A dialog box will appear with the last time the **Review Change Polygons** tool ran in the project. If you have not performed the quality checks with the **Review Change Polygons** tool, an error box will appear. Select **OK** and run the quality checks (section 3.8) before exporting your file.
3. From the **Select Output Type** dialog box, select the **Export for Census** radial button to create a file to return to the Census Bureau. Select the **Share with Another Participant** radial button if preferred.

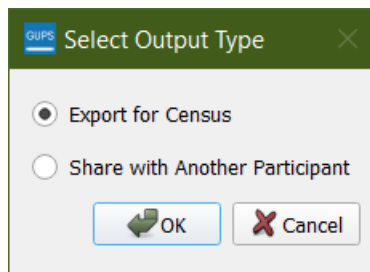


Figure 56. Select Output Type Dialog Box

- When Exporting for Census, a pop-up will appear with a BAS Contact Information form. Complete the GUPS User Contact Information form.

The screenshot shows a dialog box titled "GUPS User Contact Information" with a sub-header "Boundary and Annexation Survey (BAS) Contact Information". The form contains the following fields and controls:

- First Name: * [Text input]
- MI: [Text input]
- Last Name: * [Text input]
- Dept. Name: * [Text input]
- Position: * [Text input]
- Address: * [Text input]
- City: * [Text input]
- State: * [Dropdown menu with "Select" option]
- Zip: * [Text input with mask #####-####]
- Phone: * [Text input with mask (###) ###-####]
- Ext: [Text input with mask ####]
- FAX: [Text input with mask (###) ###-####]
- E-mail: * [Text input]
- I am the primary BAS Contact.
- OK button (with a green arrow icon)
- Cancel button (with a red X icon)

Figure 57. GUPS User Contact Information Form

- Select **OK**.
- A window opens showing the location of the output file on the local system. This is the file you will return to the Census Bureau through SWIM in the next section.

CHAPTER 4 SUBMIT CHANGES TO THE CENSUS BUREAU

All participants must use the Secure Web Incoming Module (SWIM) to submit their changes to the Census Bureau. Due to security requirements, the Census Bureau cannot accept submissions via File Transfer Protocol, email, or any protocol other than the SWIM site.

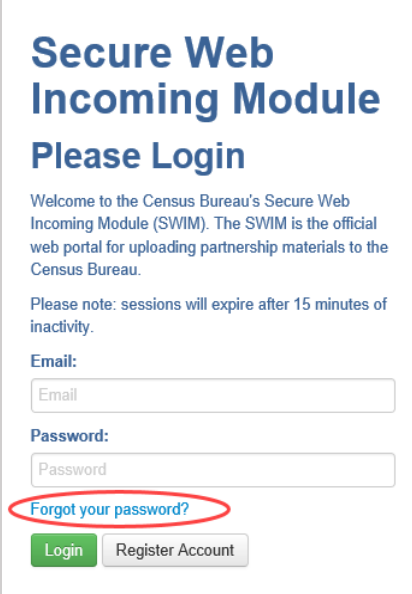
To upload and transmit update files to the Census Bureau, participants must access their accounts for SWIM.

1. Open a web browser window and enter the SWIM URL: <<https://respond.census.gov/swim/>>. SWIM runs on the two most recent versions of each of these major browsers:
 - Microsoft Edge®
 - Google Chrome®
 - Mozilla Firefox®
 - Apple Safari®
2. Participants who already have a SWIM account should proceed to Step 4 to log in.
3. Participants who do not have a SWIM account should choose 'Register Account':
 - Enter the 12-digit token provided by the Census Bureau.
 - Create a password following the criteria below:
 - a. Username and password are case sensitive.
 - b. It must be at least eight characters in length.
 - c. It must have at least one upper case character.
 - d. It must have at least one lower case character.
 - e. It must have at least one number.
 - f. It must have at least one special character (valid characters are: #, !, \$, &, ?, ~).
 - Complete the registration information form.
4. Log in to SWIM using your email address and password.
5. Upload a BAS submission:
 - a. Select the **Start New Upload** button.
 - b. Select the **BAS** radio button.
 - c. Select the **Entity** type (State, Place, County, MCD, Tribal Area, or Consolidated City).
 - d. Select the State and County.
 - e. Select the **+ Add File** button.
 - f. Select the **.zip file** to upload.
 - g. Double-click on the **.zip file** to upload. Add additional .zip files in the same manner.
 - h. Add any additional information to the Comments field.
6. Select **Next**. A **Thank You** screen will appear.
7. Logout of SWIM.

4.1 Troubleshooting SWIM

If you are having trouble accessing your SWIM account, here are some tips for using SWIM:

- SWIM email addresses *and* passwords are case sensitive.
- If you forgot your password, participants may reset their password using the “Forgot your password?” link on the login page. Follow the prompts to enter the case-sensitive email address and provide the security answer. If the security answer is correct, the SWIM system sends a password reset link to the email account for use in resetting the password. Once logged into SWIM, users can modify their password and security answer by selecting the ‘Change Security’ link at the top, right-hand side of the page.



The screenshot shows the SWIM Login screen. At the top, it says "Secure Web Incoming Module Please Login". Below that, it says "Welcome to the Census Bureau's Secure Web Incoming Module (SWIM). The SWIM is the official web portal for uploading partnership materials to the Census Bureau." There is a note: "Please note: sessions will expire after 15 minutes of inactivity." Below the note are two input fields: "Email:" and "Password:". Below the "Password:" field is a link that says "Forgot your password?" which is circled in red. At the bottom, there are two buttons: "Login" and "Register Account".

Figure 58. SWIM Login Screen and Password Reset Link

- If you cannot recover your password through the “Forgot your Password?” menus, please email geo.bas@census.gov with the subject line “SWIM Account Assistance” with a brief description of the issue.
- SWIM accounts are specific to users, not to your government so we do not advise sharing an account. You may always request another account for a new BAS Contact.
- If you already created an account through another program such as PSAP, LUCA, or GSS, you do not need another account. You may use the same previously established login information.

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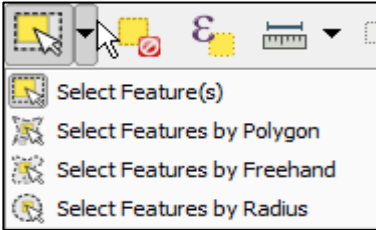

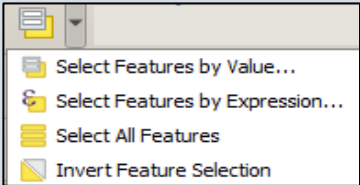



APPENDICES

APPENDIX A GUPS MAPPING TOOLS

A1 Standard Toolbar















Table 2: Standard Toolbar Tool Names and Descriptions


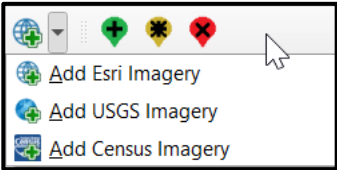



Tool	Name	Description
	Save	Saves the current GUPS project, including any user changes to layer properties, projection, last viewed extent, and layers added.
	Style Manager	Allows customization of map symbology.
	Map Management	Chooses a geographic participant program in GUPS and access the automatically loaded default map display layers based on the program chosen.
	GUPS Data Settings	Warning! This tool deletes files and folders permanently! Change GUPSGIS data working directory and clean GUPS project data.
	Search	Searches the map by place, landmark, or street name and zoom automatically to the feature.
	Pan Map	Shifts the map in Map View without changing the map scale. Select the button, then select a location on the map to re-center the map to the selected location.
	Pan Map to Selection	Shifts the map in Map View to the rows selected in the attribute table for a selected feature. After selecting a feature(s), select the button to re-center the map based on the selected feature(s).
	Zoom In	Displays the map in Map View at a larger scale. Select the button, then select on the map at the location to be zoomed to.
	Zoom Out	Displays the map in Map View at a smaller scale.
	Zoom Full	Displays the map in Map View at a smaller scale and zooms the map view to the full extent of the county.
	Zoom to Selection	Zooms the Map View to the rows selected by query in the attribute table for a feature(s). After selecting a feature(s) on the map, select the button to view the feature(s) at a larger map scale.
	Zoom to Layer	Zooms the Map View to the layer selected in the Layers Panel . After selecting the layer, select the button to zoom to the layer's extent.
	Zoom Last	Zooms the Map View to the previous map extent.

Tool	Name	Description
	Zoom Next	Zooms the Map View forward to the next map extent (only if a previous extent is available).
	New Bookmark	Creates and names a spatial bookmark of the current map view.
	Show Bookmarks	Displays all bookmarks created by the user.
	Refresh	Displays Map View to initial full display.
	Identify Features	Identifies geographic features. Select the button, then select on a feature on the map to identify the feature at the location.
	Select Features by Area or Single Click	<p>Allows the user to select layer features in the map window with a single click of the mouse, by dragging the cursor, or by drawing graphics on the screen.</p> 
	Select Features by Value	<p>Allows selection of features by value or expression.</p> 
	Deselect Features from All Layers	Deselects selected features from all layers.
	Processing Toolbox	Displays list of processing tools available.
	Measure	Provides options to measure linear distance, area, and angles on the map.

A2 BAS Toolbar









Table 3: BAS Toolbar Tool Names and Descriptions



Tool	Name	Description
	Add Linear Feature	Add a new linear feature.
	Delete/Restore Linear Feature	Delete an existing linear feature.
	Split Linear Feature	Split a linear feature. One may need to split a linear feature to accurately reflect an entity's location. This feature "splits" the original into two.
	Display All Names	Displays all names for a street with multiple names assigned in the Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) System.
	User Address List	Import an address list (.csv, .txt, etc.) into GUPS.
	Modify Linear Feature Attributes	Edit attributes of a selected linear feature.
	Modify Area Feature	Make updates to legal area (annexations, deannexations, boundary corrections, etc.).
	Show/Hide Legend	Shows or hides the Layers tab.
	Geography Review Tool	Review the attribute table for a layer.
	Review Change Polygons	Review change polygons in a layer and make corrections (reviews change polygons for holes and minimum size).
	Import County ZIP	Import zipped GUPS project shared by another GUPS user.
	Export to ZIP	Create the ZIP file containing all required data and shapefiles to be submitted to the Census Bureau or to share with another GUPS user.
	Print Map to File	Export a printable map in *.pdf, *.png, *.tif, or *.jpeg format.
	Internet Map Service	Displays the chosen map location in an internet mapping service, such as Google or Bing Maps.

Tool	Name	Description
	Add Esri Imagery	Displays satellite imagery overlaid on the QGIS map. 
	Add Point Landmark	Add a new point landmark.
	Edit Point Landmark	Edit point landmark attributes.
	Delete Point Landmark	Delete an existing point landmark.

A3 Add Data Toolbar

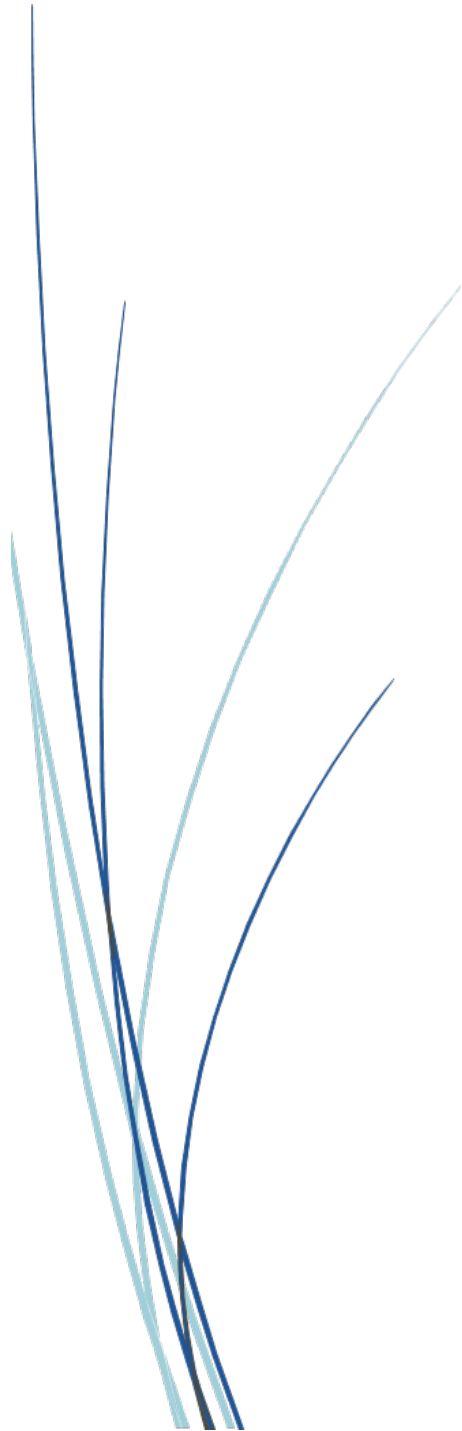
Table 4: Add Data Toolbar Tool Names and Descriptions

Tool	Name	Description
	Add Vector Layer	Add vector-based shapefile and geodatabase files.
	Add Raster Layer	Add raster-based shapefile and geodatabase files.
	Add SpatialLite Layer	Add data from a SpatialLite database.
	Add/Edit Virtual Layer	Add or Edit Virtual Layers.
	Add PostGIS Layer	Add PostGIS layer.
	Add WMS/WMTS Layer	Add Web Mapping Services (WMS) and Web Mapping Tile Services (WMTS). Publicly accessible and secured WMS services are supported.
	Add WCS Layer	Add Web Coverage Services (WCS), which provide access to raster data useful for client-side map rendering.
	Add WFS Layer	Add Web Feature Services (WFS).

Tool	Name	Description
	New Shapefile Layer	<p>Add a new shapefile layer or new temporary scratch layer.</p> 

Boundary and Annexation Survey Paper How-to Guide

Instructions for Participating in the Boundary and Annexation Survey Using Paper Maps



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INTRODUCTION

A. The Boundary and Annexation Survey

The Boundary and Annexation Survey (BAS) provides tribal, state, and local governments an opportunity to review the Census Bureau’s legal boundary data to ensure the Census Bureau has the correct boundary, name, and status information. BAS also allows participants to review and provide updates to census designated places (CDPs). Maintaining correct boundaries helps ensure that the Census Bureau assigns the appropriate housing and population counts to each government. Title 13, Section 6, United States Code authorizes this survey.

BAS fulfills the agency’s responsibility as part of the National Spatial Data Infrastructure, for which the Office of Management and Budget (OMB) Circular A–16 designates the Census Bureau as the lead federal agency for maintaining national data about legal government boundaries, as well as administrative and statistical boundaries. BAS supports the geospatial data steward responsibilities of the Geospatial Data Act, the Evidence Act, OMB E-Gov, the Federal Geographic Data Committee, Data.gov, GeoPlatform.gov, the National Map, the Geographic Names Information System, and the Geospatial One-Stop.

The Census Bureau uses the boundaries collected in BAS to tabulate data for various censuses and surveys including the decennial census, American Community Survey (ACS), and Population Estimates Program (PEP). It also uses the legal boundaries collected through BAS to support several other programs such as Congressional and State Legislative redistricting, the Economic Census, the Geographic Update Population Certification Program, and the Special Census program.

B. Key Dates for Respondents

- January 1** Boundary updates must be legally in effect on or before this date to be reported in the current survey year.
- March 1** First BAS deadline - Boundary updates returned or postmarked by this date will be reflected in the ACS and PEP data and in next year’s BAS materials.
- May 31** Final BAS deadline - Boundary updates returned or postmarked by this date will be reflected in next year’s BAS materials.

C. Adjacencies and Legal Disputes

The Census Bureau will not make any boundary change that affects adjacent legal governments without the appropriate documentation. Please review any changes that affect adjacent governments to determine if they are intentional legal changes.

If the Census Bureau discovers that an area of land is in dispute between two or more jurisdictions, the Census Bureau will not make any boundary corrections until the parties come to a written agreement or there is a documented final court decision regarding the dispute.

To learn more, please contact the Census Bureau Legal Office at **1-301-763-2918**.

For disputes involving tribal areas, the Census Bureau must defer to the Office of the Solicitor at the Department of the Interior for a legal opinion. Often complicated land issues require an extended period for resolution, and in those cases, the Census Bureau will retain the current boundary in the database until a legal opinion is issued by the Solicitor's office.

D. Contact Us

If assistance is required in preparing your BAS submission, please contact the Census Bureau at [<geo.bas@census.gov>](mailto:geo.bas@census.gov) or **1-800-972-5651**.

E. Resources

Additional resources are available on our website. Technical documentation and helpful videos are also available to walk through the BAS submission process.

Technical Documentation

For more detailed information about Census Bureau Geography, BAS Submission information, change types, and shapefiles, see the BAS Technical Guide at [<www.census.gov/programs-surveys/bas/information/respondent-guides.html>](http://www.census.gov/programs-surveys/bas/information/respondent-guides.html).

Videos

The Census Bureau created training videos to give BAS participants detailed instructions and information on how to report and submit BAS changes. These videos are available on the BAS website at: [<www.census.gov/programs-surveys/bas/library/bas-videos.html>](http://www.census.gov/programs-surveys/bas/library/bas-videos.html).

CHAPTER 1 COMPLETING A PAPER BAS SUBMISSION

Welcome to the BAS Paper How-to Guide. Use the steps and help references from this section to start your BAS submission.

1.1 Check Package Materials

The Paper BAS package contains: an index map, larger scale mapsheet(s), BAS insert, and colored pencils.

Start by reviewing the BAS insert for information regarding your BAS submission.

1.2 Update the Maps

Compare the BAS maps to a local source for the government (e.g., a local plat map, or a county assessor's dataset). Update the map(s) if the boundaries shown do not correctly depict the boundaries in effect as of January 1 of the current survey year.

Chapter 2 and **Chapter 3** of this guide give detailed instructions on how to mark up the map using the pencils provided.

1.2.1 How to Read the Maps

Appendix A of this guide describes how to interpret the paper maps provided.

Viewing a digital map of the boundaries on TIGERweb before annotating the paper maps can be helpful. TIGERweb <https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb_main.html> is the Census Bureau's online map viewer that can be used to see a more detailed version of boundaries alongside imagery. Instructions for using TIGERweb for BAS can be found on the BAS website at <<https://www2.census.gov/geo/pdfs/partnerships/bas/TIGERwebforBAS.pdf>>.

1.3 Mail Back Your Completed Submission

Return all updated maps using the provided envelope and return label from the Paper BAS package you received, or mail the updated maps to the Census Bureau at the address listed below:

U.S. Census Bureau
National Processing Center
1621 Dutch Lane
ATTN: BAS, Check-in and Batching Section, Bldg 60A
Jeffersonville, IN 47130

CHAPTER 2 MARKING UPDATES ON THE MAP: BOUNDARIES

Note: Census designated place (CDP) updates are being accepted through digital submissions only. Please refer to the BAS website <www.census.gov/programs-surveys/bas.html> for more information.

2.1 Legal Changes

All legal changes (annexations and deannexations) must have supporting documentation. AIA legal boundary changes must have AIA legal documentation (e.g., statute, federal court decision, trust deed) submitted with each requested change. Legal changes from incorporated places, minor civil divisions (MCDs), and counties must have an authorization number, such as a resolution or ordinance number, authorization type, and the effective date noted on the map.

2.1.1 How to Draw Legal Boundary Changes

Figure 1 and Figure 2 illustrate the correct way to draw legal boundary changes on BAS maps.

1. Using the red pencil provided, cross out the portion of the boundary that is no longer current with a string of "Xs".
2. Draw the new boundary line(s) ensuring the boundary is closed.
3. Add the ordinance number or other legal identifier of the action authorizing the change, along with the effective date of each annexation or deannexation that is drawn on the map.

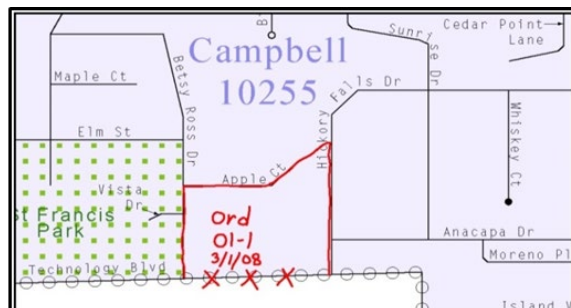


Figure 1. Correctly Annotating a Legal Boundary Change

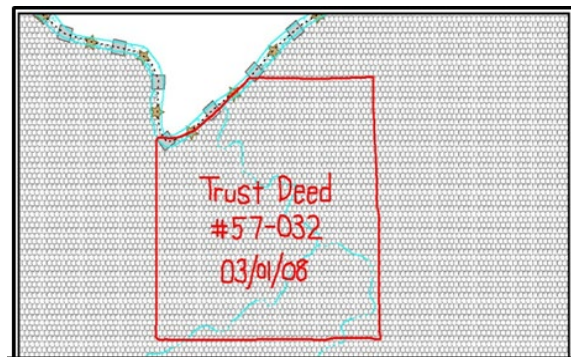


Figure 2. Correctly Annotating an AIA Trust Land

2.1.2 Boundary Changes Involving Coincident Features

Figure 3 and Figure 4 illustrate how to adjust a boundary that is currently coincident with (i.e., follows exactly) a feature, such as a river or street.

1. Using the red pencil, cross out the portion of the boundary that is no longer current using a string of "Xs" inside circles.
2. Draw the updated boundary.
3. Add the authorization number or other identifier of the action authorizing the change along with the effective date of each addition or deletion next to the area being changed.

If both the boundary and feature need to be moved, cross out the incorrect boundary with red "Xs" and then draw a red line representing the new location of the boundary and road.

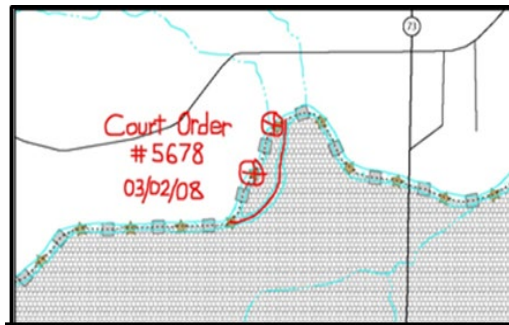


Figure 3. Annotating a Legal Boundary Change Coincident with a Feature

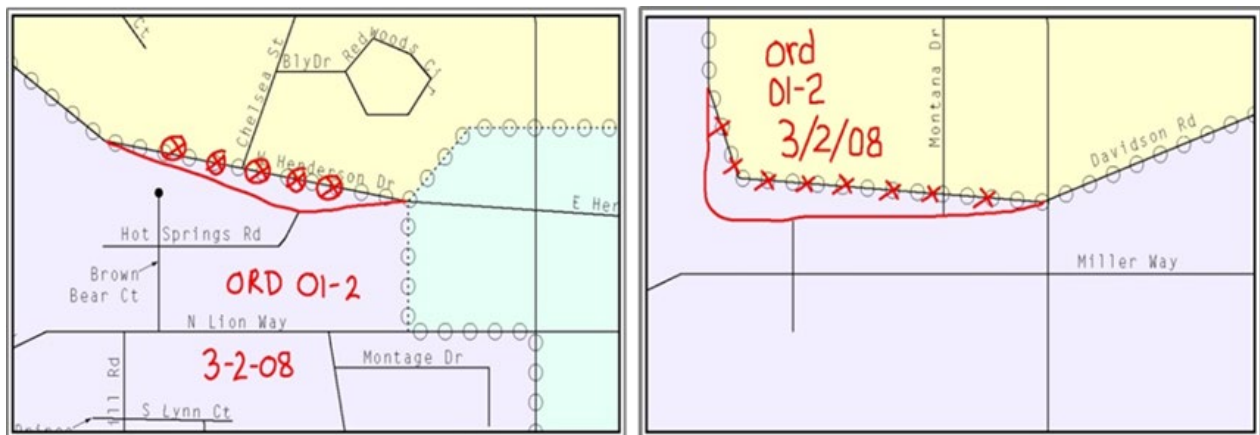


Figure 4. Annotating a Legal Change to an Incorporated Place

Left: Only the boundary moves to the new location. The street feature location is correct, but the boundary location is incorrect. Right: Both the boundary and the street feature move to a new location. Both the boundary and the street feature location are incorrect.

2.2 Boundary Corrections

A boundary correction is the adjustment of a boundary to correct an error in the Census Bureau’s version of the boundary, and it is not the result of a legal change. Boundary corrections should follow the general shape of the existing boundary. Legal documentation is not required when submitting a boundary correction to the Census Bureau. **Figure 5** illustrates how to complete a boundary correction.

1. Using the red pencil, cross out the incorrect boundary with a string of “Xs”.
2. Add a line showing the correct boundary.
3. Print the letters “BC” inside the change to identify the update as a boundary correction rather than a legal change.

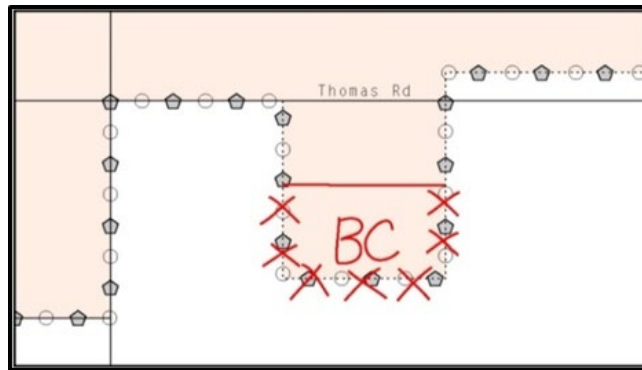


Figure 5. Annotating a Boundary Correction to an Incorporated Place Boundary

2.3 Corridors and Offsets

2.3.1 Geographic Corridors

The Census Bureau does not require places and AIAs to report rights-of-way; geographic corridors are not essential to the mission of the Census Bureau and the right-of-way should only be included if it is crucial to the place or AIA, or if state or local laws require it.

To indicate a geographic corridor on the map, use the red pencil to draw a line on each side of the road. Mark the beginning and end of each line with perpendicular hatch (//) marks. Write the letters “GC” beside each line (**Figure 6**). To remove a geographic corridor or offset, use the red pencil to mark the beginning and end of the corridor or offset with perpendicular hatch (||) marks and write “remove GC.”



Figure 6. Indicating a Geographic Corridor

2.3.2 Geographic Offsets

To indicate a geographic offset on the map, use the red pencil to draw a line parallel to the road, along which the offset will be created. Mark the beginning and end of the line with perpendicular hatch (||) marks. Write the letters “OFF” on the side of the road where the geographic offset exists ([Figure 7](#)).

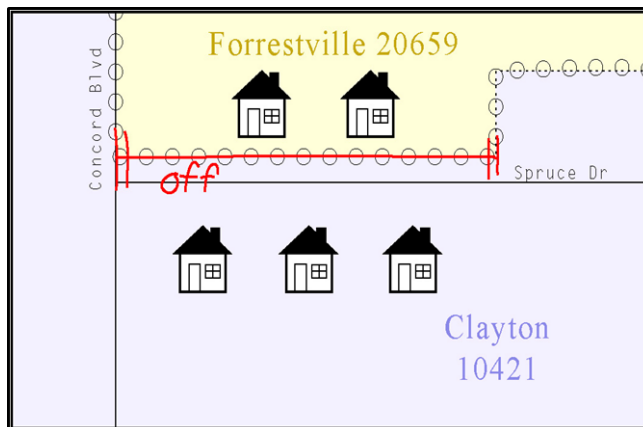


Figure 7. Depicting a Geographic Offset

2.4 Tribal Subdivisions

The Census Bureau considers any type of unit of self-government or administration in tribal areas as a tribal subdivision. A tribe may submit only one type of subdivision, even if it has more than one type of distinct administrative area that could qualify as a tribal subdivision (e.g., tribal election districts, tribal water districts, or health service areas with different boundaries). The Census Bureau recognizes two types of tribal subdivisions - active (A) or inactive (I):

- Active subdivisions are defined as having a functioning government, with elected officials, that provides programs and services.
- Inactive subdivisions have no functioning government or elected officials and receive services solely from the tribe.

2.4.1 Submitting New Tribal Subdivisions

If this is the first time that tribal subdivisions are being provided to the Census Bureau do the following ([Figure 8](#)):

1. Using the blue pencil, please add the boundaries on the BAS map(s).
2. Please note: each tribal subdivision must be labeled on each map sheet with its name (e.g., “District 3,” “Arlee District,” “White Rock Chapter,” “Parmelee Community”).
3. Record the name, type, and status of each subdivision on the map.
4. If a tribal subdivision boundary follows a visible feature such as a stream, road, or fence line, please be sure to indicate that on the BAS map. Add the visible feature the boundary follows if it is not already shown on the map.

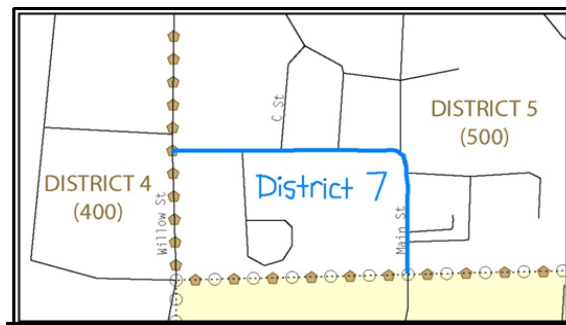


Figure 8. Recording New Tribal Subdivision Information

2.4.2 Updating Existing Tribal Subdivisions

If tribal subdivisions were delineated during a prior survey, they are symbolized on the enclosed BAS maps by a dashed pentagon-shaped gold line. To add or revise tribal subdivision boundaries on the enclosed map(s):

1. Using the red pencil, please note any changes to the boundary of the land base on the map(s).
2. Using the blue pencil, please add and/or revise the boundaries of the tribal subdivisions on the enclosed BAS map(s).

2.4.3 Tribal Subdivision Documentation

New tribal subdivisions and name changes to existing tribal subdivisions require documentation, regardless of whether they are being delineated for the first time or being added to those previously reported. This documentation should be in the form of a tribal resolution or a tribal constitution. Include a copy of this documentation with the BAS maps when returning these materials to the Census Bureau.

Corrections to the Census Bureau’s depiction of tribal subdivision boundaries do not require documentation.

2.5 New Incorporations and Disincorporations

Newly incorporated places should provide the Census Bureau with:

1. A copy of the official new incorporation papers, including date of incorporation.
2. A map indicating the boundaries of the new incorporation.
3. Contact information for the Highest Elected Official and a contact for BAS.

Disincorporated governments should provide the Census Bureau with a copy of the official papers of disincorporation, including the effective date.

CHAPTER 3 MARKING UPDATES ON THE MAP: FEATURES

The primary purpose of BAS is to collect legal boundary information. However, please also submit feature (e.g., streets, rivers) updates and modifications occurring near or coincident with a legal boundary through BAS. Feature modifications that are internal to the boundary of an incorporated place, county or MCD will be accepted but are not required as part of BAS.

3.1 Linear Features

3.1.1 Modifying Street Locations

1. Using the purple pencil, please cross out the incorrect feature location with “Xs”. Only correct streets that are incorrectly located, mislabeled, or distorted.
2. Please draw the feature in the correct location.
3. Print the name of the feature along the length of the feature as shown in [Figure 9](#).

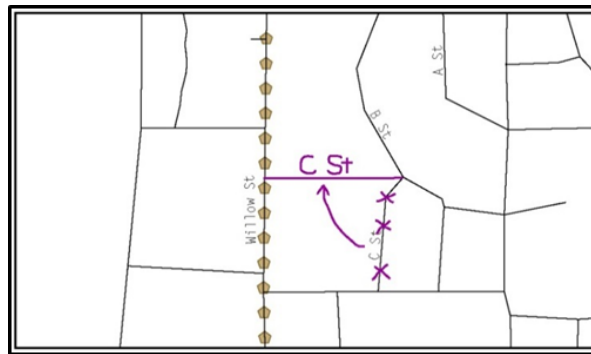


Figure 9. Modifying a Street Feature Location

3.1.2 Adding Streets

1. Using the purple pencil, draw the feature and its name on the map. Where possible, provide the address range for any new streets, only if one of the following circumstances exists:
 - A road where house numbers, street names, and/or addresses were added or deleted.
 - A street was added that crosses a boundary.
2. Using the purple pencil, please add in the address ranges, providing the lowest and/or highest possible addresses where the road intersects a boundary.

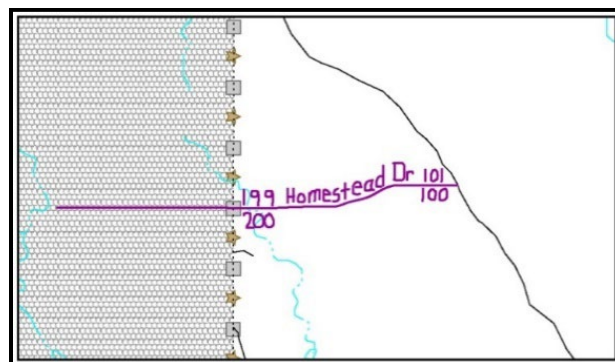


Figure 10. Adding Street Features/Annotating with Name and Address Breaks

3. Provide the Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) Feature Class Code (MTFCC) for all new streets (**Figure 11**). The MTFCC will be S1400 for most residential streets. A full list of MTFCC codes and descriptions can be found at www.census.gov/library/reference/code-lists/mt-feature-class-codes.html.
4. Alternate street names may be written in parentheses below the primary street name. Due to the difficulty of showing multiple names for a street, only the primary street name is shown on BAS maps.

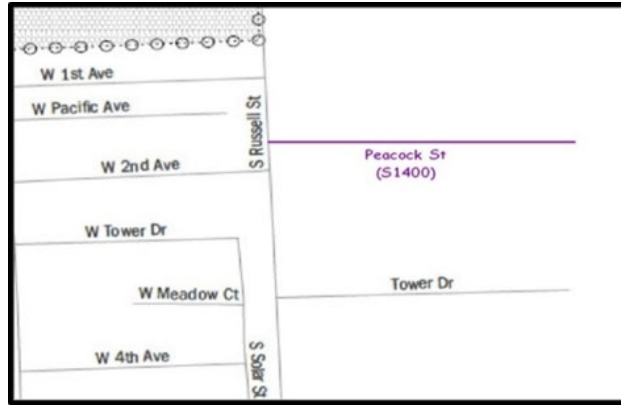


Figure 11. Adding an MTFCC when Adding a New Street

3.1.3 Adding Street Names in a Congested Area

1. If an area of the map is too congested to add all feature names, using the purple pencil, please number each feature and list this number and the corresponding feature name in the map margin or in an uncongested spot close to the feature's actual location (**Figure 12**).
2. Do not repeat numbers on a map sheet.

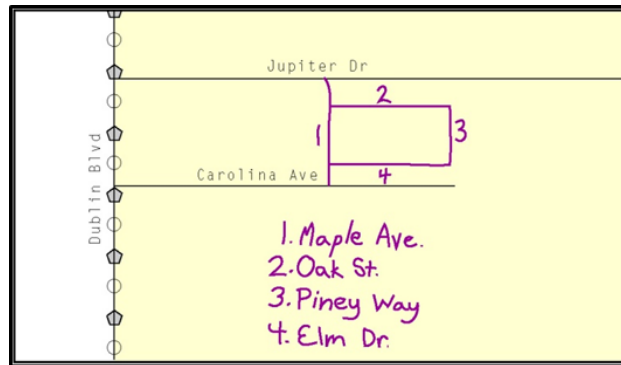


Figure 12. Listing Street Names when Adding Streets in a Congested Area

3.1.4 Correcting Street Names

1. Using the purple pencil, please draw a line through the incorrect street name.

2. Please print the correct street name along the feature.

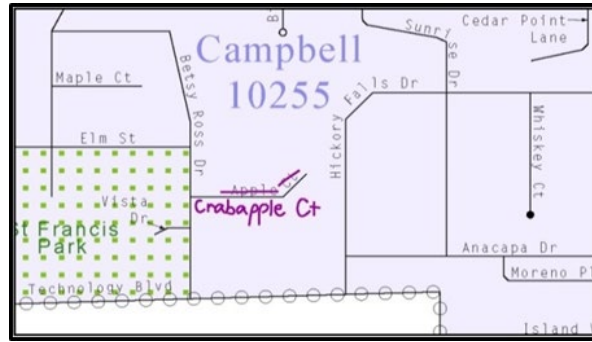


Figure 13. Correcting a Street Name

3.1.5 Deleting Streets

1. Delete street features only if they are nonexistent, or impassable. Do not delete a street because the local jurisdiction is not responsible for maintaining it.
2. Using the purple pencil, please mark the beginning and end of the base feature to be deleted with hatch (//) marks perpendicular to the feature as shown below.
3. Cross-out the nonexistent street feature using a string of "Xs".

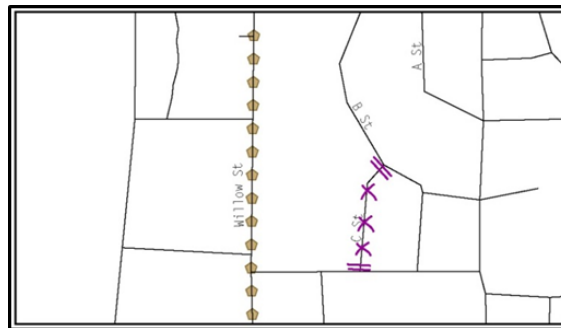


Figure 14. Deleting a Street Feature

3.1.6 Adding Cul-De-Sacs or Circles

1. Using the purple pencil, please draw the feature as follows:
2. Cul-de-sacs are entirely paved and should be drawn as a solid dot.
3. Circles have an area of unpaved ground within them and should be drawn as an unfilled circle.
4. Print the name of the associated street leading to the cul-de-sac or circle.

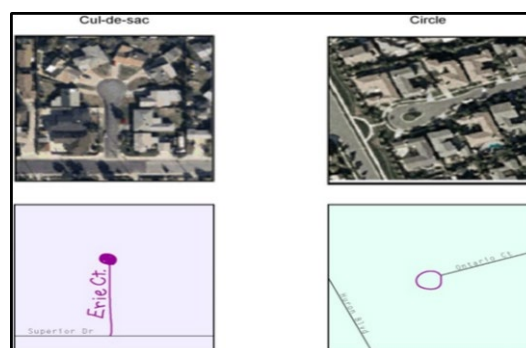


Figure 15. Adding Cul-de-sac and Circle Features

3.2 Point Landmarks

BAS maps display a select number of point landmarks (e.g., mountain peaks). The BAS maps also include select point landmarks taken from United States Geological Survey (USGS) topography maps and the USGS Geographic Names Information System. Point landmarks can be updated through BAS but are not required. Acceptable point landmark feature updates include mountain peaks or summits, libraries, city halls, community centers and police stations. Airports, parks, schools, golf courses, museums, and cemeteries may be submitted as either point landmarks or area landmarks.

When adding a point landmark:

1. Using the purple pencil, place a solid dot at the location of the point landmark.
2. Print the name of the landmark next to the dot.

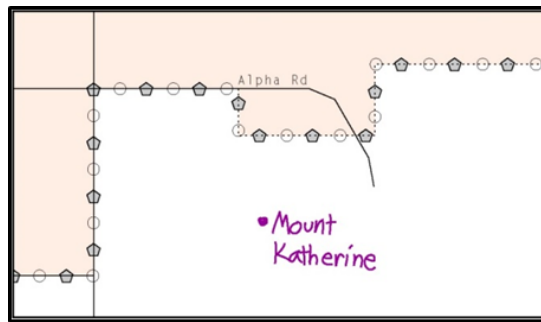


Figure 16. Adding a Point Landmark

3.3 Area Landmarks

BAS maps display a select number of area landmarks (e.g., lakes). Like point landmarks, area landmarks can be updated through BAS, but are not required. Acceptable area landmark updates include water bodies, swamps, quarries, national parks, and forests. Airports, parks, schools, golf courses, museums, and cemeteries may be submitted as either area landmarks or point landmarks.

When adding an area landmark:

1. Using the purple pencil, draw the area landmark boundary in the correct location.
2. Print the name of the landmark inside or next to the feature.

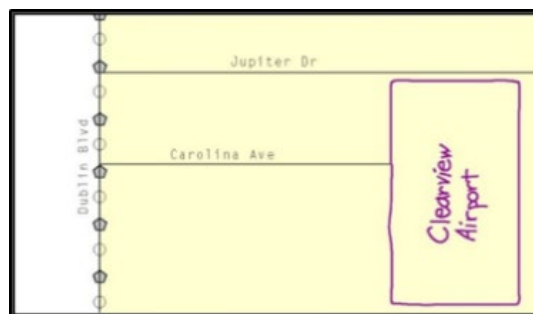


Figure 17. Adding an Area Landmark

APPENDICES

APPENDIX A READING A MAP

A1 Index Maps

When deciding which map to use for a BAS submission, it is necessary to view the government as a whole and choose the correct parent map sheet based on its location within the government. Do this by referring to the index map (Figure 18), a relatively small-scale map that shows the entire government, and the location and number of all parent map sheets within that government. Each parent map sheet has a numerical locator, which differentiates it from the other parent map sheets associated with that government. The numbering begins with the northern and western-most parent map sheets and continues left-to-right. By referring to the index map, determine which parent map sheet(s) to use for the BAS submission, and then access it based on its number on the index map. The index map is not appropriate for BAS submissions. Its purpose is as a reference or index of parent maps, and it will not be accepted as a BAS submission.

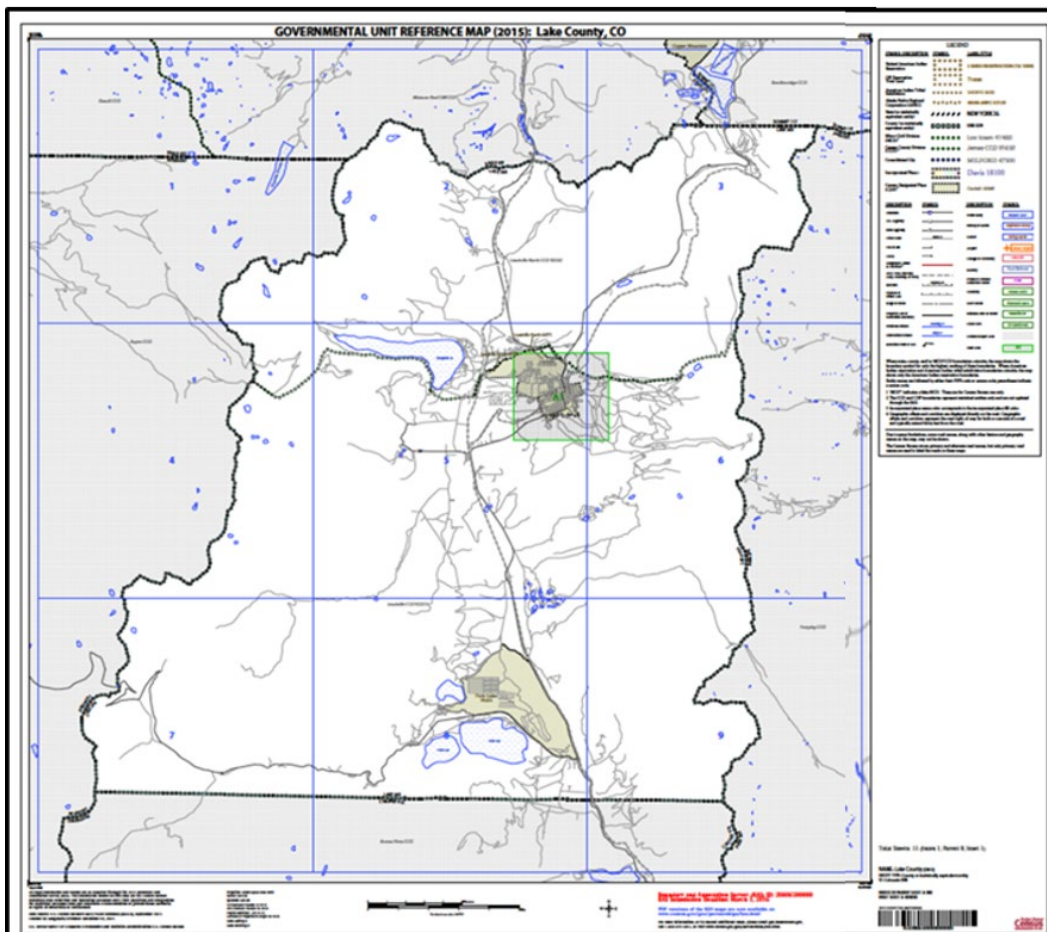


Figure 18. Index Map

A2 Parent Maps

Many governments are too large to be shown on a single map. For this reason, it is necessary to separate the government into sections, each of which has its own map, called the parent map sheet (**Figure 19**). A single government is often represented with numerous map sheets, with each parent map sheet showing a small section of the government. Each parent map is assigned a number, beginning with the number one and increasing progressively for each additional parent map sheet (i.e., 1, 2, 3, 4, etc.). This makes viewing and editing map sheets more manageable, and it becomes possible to depict an area with the level of detail necessary to make changes or challenges. In most instances, the parent map is the one that should be used for BAS submissions.

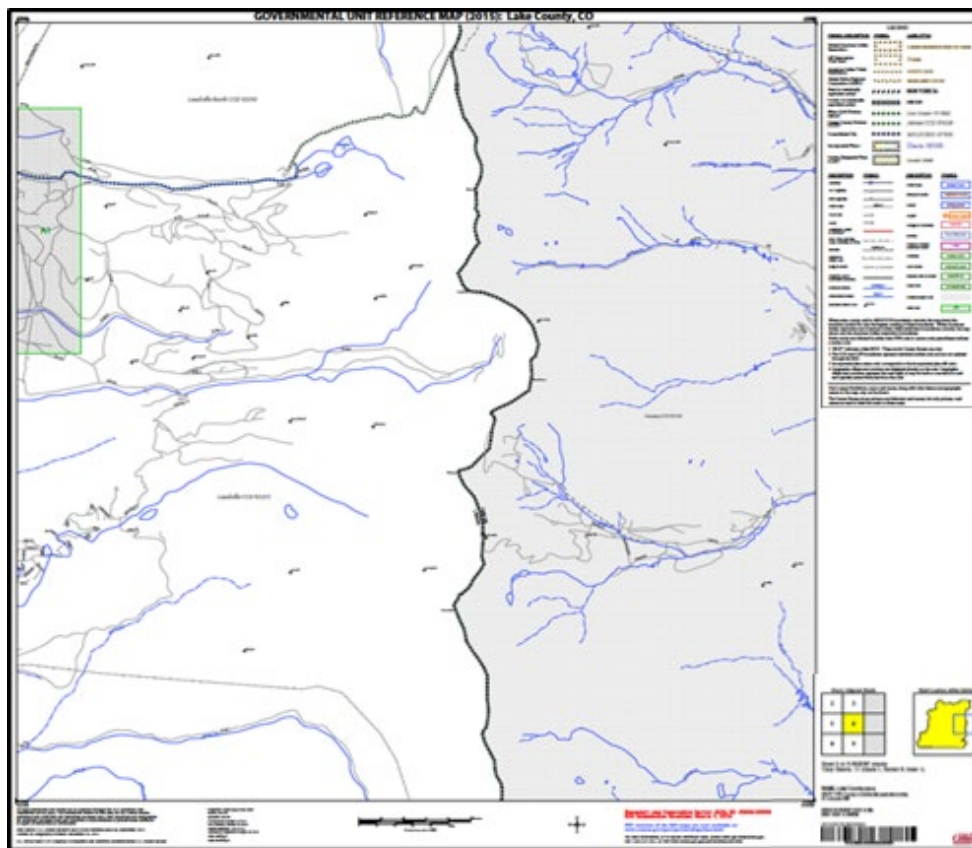


Figure 19. Parent Map

In the bottom right-hand corner of the parent map sheet, there is a key to the parent map sheet's location in relation to adjacent map sheets as shown in **Figure 19** above. A larger example of this key is shown in **Figure 20**. This key helps the user quickly determine which adjacent map sheet to use.

2	3	
5	6	
8	9	

Figure 20. The Key to Adjacent Sheets

Next to the key to adjacent sheets, there is a small outline of the entire government (the inside of which is colored yellow), and a blue outline of the parent map sheet. This key displays the location of the map sheet in relation to the government as a whole (**Figure 21**).

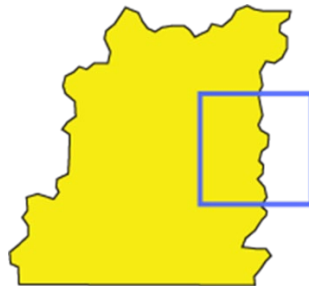


Figure 21. The Sheet Location within Government Key

A3 Inset Maps

In some instances, in highly congested areas, even a parent map sheet provides insufficient detail for BAS purposes. In such cases, rather than using a parent map, the area is depicted within an inset map (**Figure 22**). This refers to a map with a very large scale, so that it displays a smaller area than the parent map sheet, but with greater detail. On the index map, an inset map is represented by a green outline, and is assigned a number preceded by a letter (i.e., A1, A2, B1, etc.), as shown in **Figure 23**. Inset maps are only found in areas with many features and are used less often than parent maps.



Figure 22. Inset Map Displayed on the Index Map

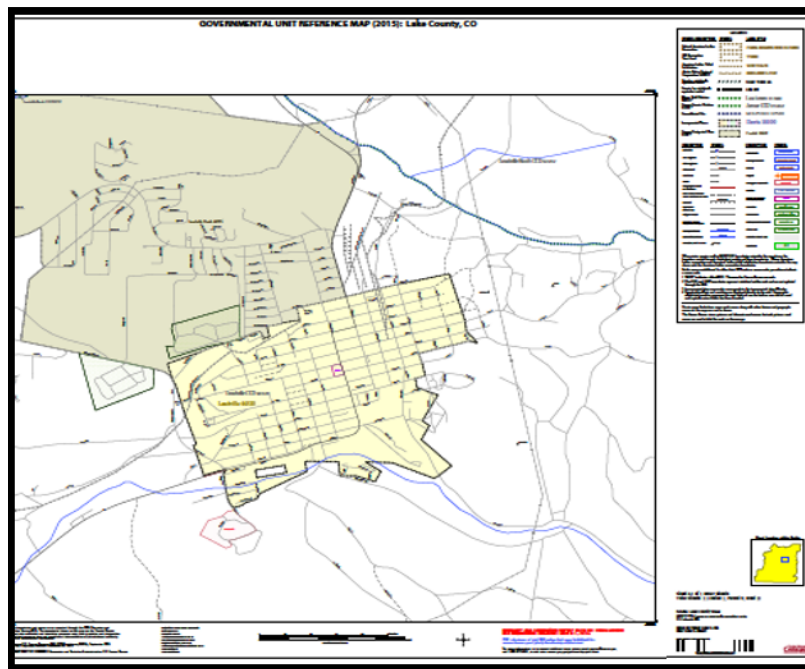


Figure 23. Inset Map

A4 Scales

Naturally, the map is always smaller than the area it represents, so nearly all maps are equipped with a scale that depicts the ratio of distance on the map to the actual distance on land. The scale can be designed any number of ways, but two of the most common scales are ratio scales, which describe a ratio between the map and the real world (e.g., 1: 24,000), and bar scales, which depict that relationship graphically by displaying how much a certain distance on the map represents in the real world (Figure 24). In other words, if a map has a ratio scale of 1: 24,000, it means that one inch on the map represents 24,000 inches on the ground. This works with any unit of measurement, so long as the unit being used on the map is the same as – or properly converted from – the unit being depicted on the ground. Often a map will have both types of scale.

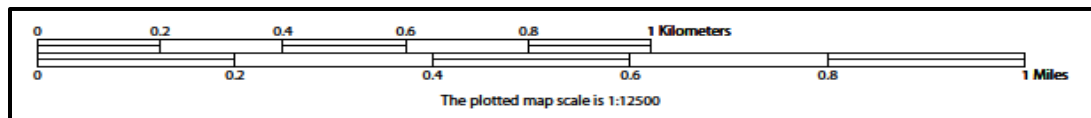


Figure 24. Bar Scale

The map from which this scale was taken has a ratio scale of 1:12,500. The bar scale shows distances in kilometers and miles.

A bar scale will often be a set length (e.g., one inch), and/or represent a set distance (e.g., one mile). The bar scale is used to determine distance on the map by using a ruler. Simply place the ruler on the map to determine the distance on the map; then place the ruler along the bar scale, which will show how much that distance represents on the ground.

A5 Compass Rose

All maps should have some sort of diagram depicting at least one – but sometimes all – of the cardinal directions (north, south, east, and west) that the map reader can use to orient the map. This diagram is called a compass rose (Figure 25). It is important to check the compass rose when beginning to read a map to determine the direction in which the map is oriented (i.e., which direction is at the top of the map).



Figure 25. Compass Rose

A6 Legend

Because a map is a graphic representation of a real-world area, it is necessary, and convenient, to symbolize real world features with representative symbols. In order to describe what each symbol means, most maps have a legend (Figure 26). Typically, the legend will have a small example of each symbol (e.g., a line, or a picture of a tent), and next to the symbol, in text, a brief description of what is being depicted (e.g., “road”, or “campground”).

<u>DESCRIPTION</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>SYMBOL</u>
Interstate		Water Body	
U.S. Highway		Swamp or Marsh	
State Highway		Glacier	
Other Road		Airport	
Cul-de-sac		College or University	
Circle		Military	
Geographic Offset or Corridor ⁴			
4WD Trail, Stairway,			

Figure 26. Legend Describing What Each Symbol Means

Sometimes a map needs to depict multiple features concurrently. This is because some lines are the boundaries of multiple geographies at the same time (i.e., a county boundary can also be a city boundary, a voting district boundary, and even a highway or river). Such instances can be depicted in various ways, but Census Bureau maps depict coincident lines by alternating the symbols for each type of line as shown in Figure 27. In other words, if a line is both a county boundary (symbolized by a series of squares) and a city boundary (a series of circles), that boundary will be depicted as a series of alternating squares and circles for the length of the concurrency.

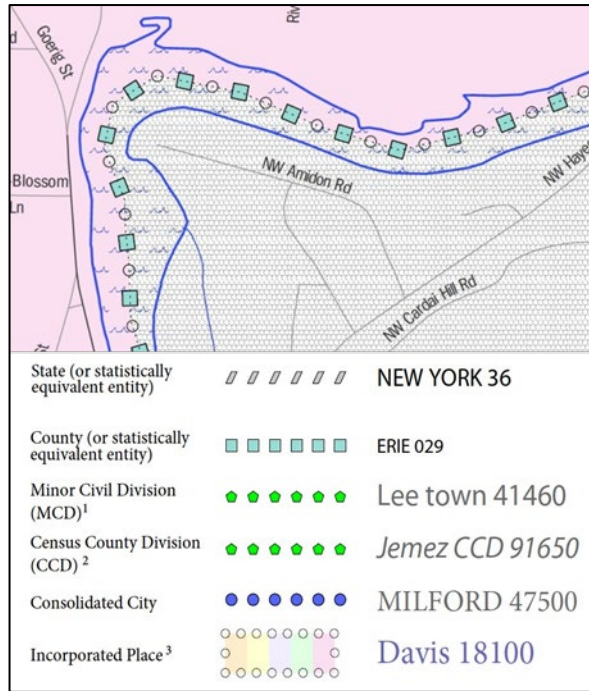


Figure 27. Map Depicting Multiple Features Concurrently

In situations where higher-level geographies (e.g., national, state, county, or county subdivisions) coincide, the Census Bureau’s maps display only the symbol of the highest-ranking of these boundaries. In other words, if a particular boundary is shared by both a state and county, only the symbol representing the state boundary will be displayed.