2021 Geospatial Editing Tool (GET)

User Guide

For high population Census Tracts and Dissemination Areas

Geographic Concepts, Standards and Areas

Statistical Geomatics Centre

Statistics Canada Statistique Canada

Canada

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Chapter 1 – Welcome

Background

In preparation for the 2021 Census, Statistics Canada would like to ensure that the dissemination geographies are relevant for data users and, therefore, would like your assistance with examining high population census tracts (CTs) and dissemination areas (DAs) and modifying their boundaries, if desired.

Objective

The purpose of this document is to outline the procedures required to be able to modify census tracts (CTs) and dissemination areas (DAs) using the Geospatial Editing Tool (GET).

Help

For problems or questions regarding the Geospatial Editing Tool (GET) or the geographic areas within, please contact the Geographic Concepts, Standards and Areas (GCSA) Consultation Project:

613-316-0332
statcan.gcsacnrsproj.statcan@canada.ca

Abbreviations

BB – Building Block
CA – Census Agglomeration
CMA – Census Metropolitan Area
CT – Census Tract
DA – Dissemination Area
GCSA – Geographic Concepts, Standards and Areas
GET – Geospatial Editing Tool
WR – Work Region

Chapter 2 - Getting Started

Link
https://geoprod.statcan.gc.ca/GET/

Census Tract and Dissemination Area Delineation Methodologies

See the *2021 Census Tract Maintenance* manual and the *2021 Dissemination Area Maintenance* manual for more details.

Chapter 3 – Login

When the GET application opens, the user is prompted to select the preferred language in which to work.
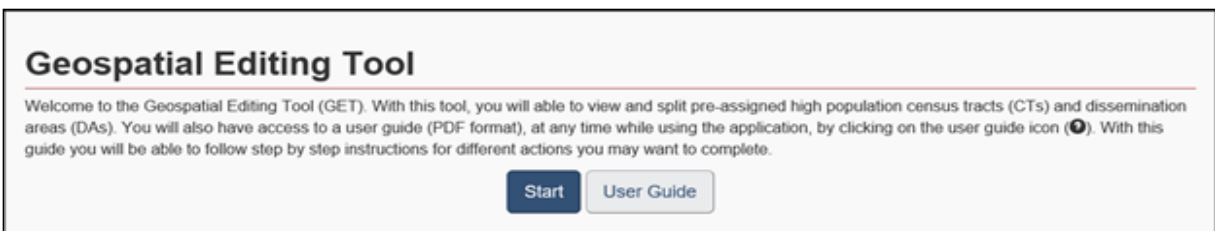
Doing so opens the Welcome screen, from which the user is able to open a PDF version of the user guide and/or start the application.

After clicking on 'Start', the login page appears, where the user enters the username and password that have been previously provided to them by Statistics Canada.

If the user enters incorrect information or the login fails, the user sees the error message below. Before contacting Geographic Concepts, Standards and Areas (GCSA) Consultation Project team using the contact information below, the user should ensure the user name and/or password have been entered correctly.
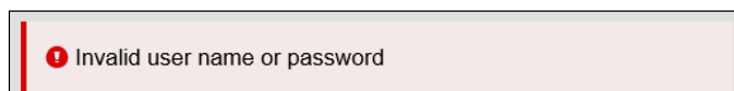
613-316-0332
statcan.gcsacnrsproj.statcan@canada.ca

Note: The application works best using Chrome or Firefox. If there is any issues with the application in Internet Explorer, please contact the project team.

# Chapter 4 - Graphic User Interface

Key Features

Work Region
Map View Frame
Login
Zoom in/ Zoom out
Locator Map
Menu Bar

Work Region

A list of census tracts (CTs) and dissemination areas (DAs) with high population is provided to each user for their review and potential modification. The area requiring analysis is called the Work Region (WR). All WRs are pre-assigned and can be found in the 'Choose a Work Region' screen.

All WRs are comprised of Building Blocks (BBs); smaller units of geography available to be used for modifying a given geographic area. There are two types of BBs available to be used for modifying a CT; DA **or** Block (please see page 15, *Census Tract Editing*). A WR can be modified using only one type of BB, not a combination of types. Only one type of BB, the Block, is available for modifying a DA.

Map View Frame
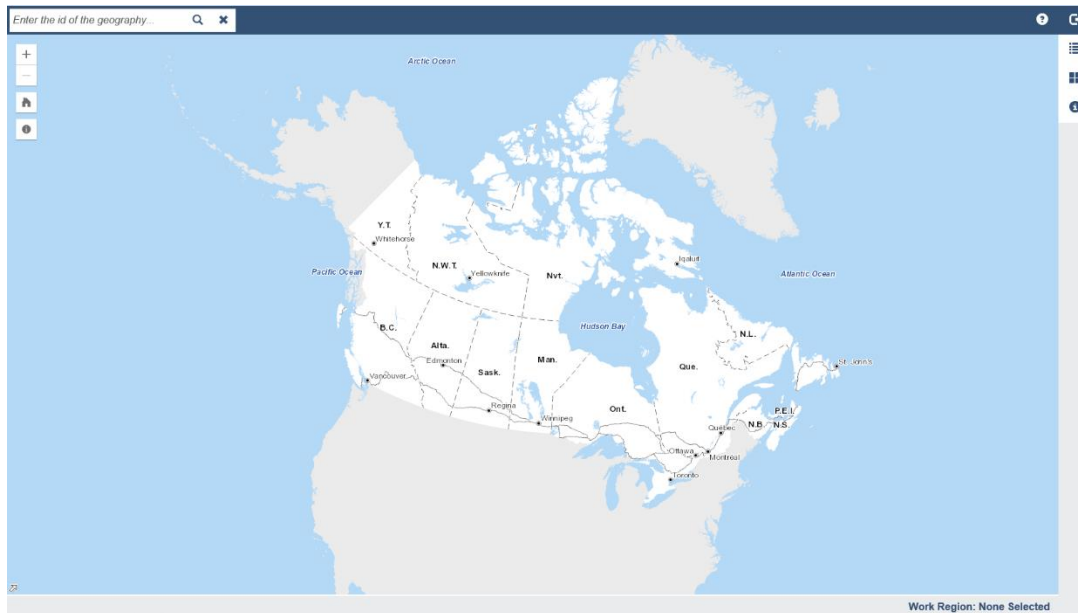
Zoom in/Zoom out

The 'Zoom in/Zoom out' buttons are located on the top left corner of the Map View Frame. They allow the user to move between predefined map zoom levels and scales quickly and easily.

The predefined zooms levels and scales are as follows:

Zoom level	Scale (kilometers)
0	1 to 0.04
1	1 to 0.1
2	1 to 0.2
3	1 to 0.3
4	1 to 0.6
5	1 to 1
6	1 to 3
7	1 to 6
8	1 to 10
9	1 to 20
10	1 to 40
11	1 to 100
12	1 to 200
13	1 to 300
14	1 to 600

Zoom In

+

Allows the user to zoom into a larger map scale (move in "closer" to the map to see more details).

There are 2 ways to do this:
- By clicking on the '+'
- By turning the mouse wheel up

Zoom Out

−

Allows the user to zoom to a smaller map scale (move "away" from the map to see fewer details).

There are 2 ways to do this:
- By clicking on the '-'
- By turning the mouse wheel down

Search by Geographic Identifier (ID)

Search by Geographic ID is a quick search tool that offers the user the ability to zoom immediately to a desired geographic unit. The user can search by DA_UID, CSD Name, CSD_UID, CMA/CA name or code, and CT Name in the search box. Both the working and reference layers can be searched.

The user does not need to enter the full code or name. Just by entering some information, the application will give all the options with the search criteria entered.


Identify Tool

By clicking on the 'Identify Tool' on the top left corner of the map, users are able to click on a location (point) on the map in the Map View Frame to obtain the codes, names (if applicable) and population of all geographic areas available in the tool, for that point. Clicking on a location on the map opens the 'Identify Results' panel.

To close the panel, click on 'Identified Information', located to the right of the panel .
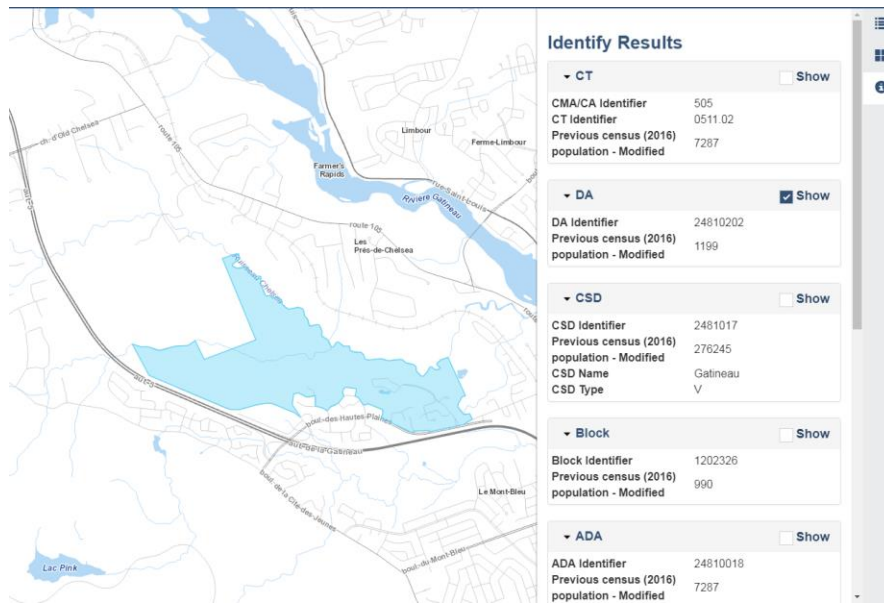
The results are displayed in full for each of the working and reference layers. By clicking on the 'Show' to the right of the layer name, a highlighted area appears in blue on the map that represents that geographic area.

The results of each 'Reference Layer' are collapsed to save room. To view the results for a given reference layer, click on the inverted triangle to the left of the layer name. To collapse the view, simply click again on that triangle.

Locator Map

The Locator Map is a feature found in the bottom left corner of the screen. It is used to locate the current Map View Frame extent with respect to a larger recognizable area of Canada. The area displayed in the Map View Frame is represented by a grey rectangle on the locator map. In the example below, the extent of the Map View Frame is located in the centre of Canada, as indicated by the grey rectangle.

Menu Bars

There are two menu bars located in the top right corner of the Map View Frame; a "Geography Menu Bar" and a "System Menu Bar".

Geography Menu Bar

The Geography Menu Bar contains tools that allow the user to turn available layers on and off, select a WR or obtain more information for a selected point on the map.

View Available Layers

'View Available Layers' opens the available layers menu that displays the working and reference layers available for use in the GET.

Available Layers

	Working Layers	
☐ ☐	CSD	☐ 🏷
☐ ☐	CT	☐ 🏷
☐ ☐	DA	☐ 🏷
☐ ☐	Block	☐ 🏷

	Reference Layers	
☐ ☐	REF_ADA	☐ 🏷
☐ ☐	REF_CSD	☐ 🏷
☐ ☐	REF_CT	☐ 🏷
☐ ☐	REF_DPL	☐ 🏷
☐ ☐	REF_DA	☐ 🏷
☐ ☐	REF_Block	☐ 🏷
☐ ☐	REF_CMACA	☐ 🏷

Accessing this menu allows the user to:

- ■ View the legend, which contains the name and symbology of each geographic area in the GET.

- Control the display of the geographic boundaries by clicking in the box to the left of the layer name and symbol (for example, ☐ ☐ CT). Turning a layer on or off this way will prompt the system to automatically refresh the display.

- Control the display of the labels of each geographic area by clicking in the box to the left of the label symbol (☐ 🏷) to display the ID/code and the population. Turning a label on or off this way prompts the system to automatically refresh the display.

'Working Layers' are the geographic areas used for updating with the GET. The 'Reference Layers' are original, unmodifiable, versions of each geography as well as other reference geographic areas, such as census subdivision (CSD), census metropolitan area (CMA) and census agglomeration (CA).

In the example below, the DA and the Block working layers are turned on and the CT reference layer is turned on.
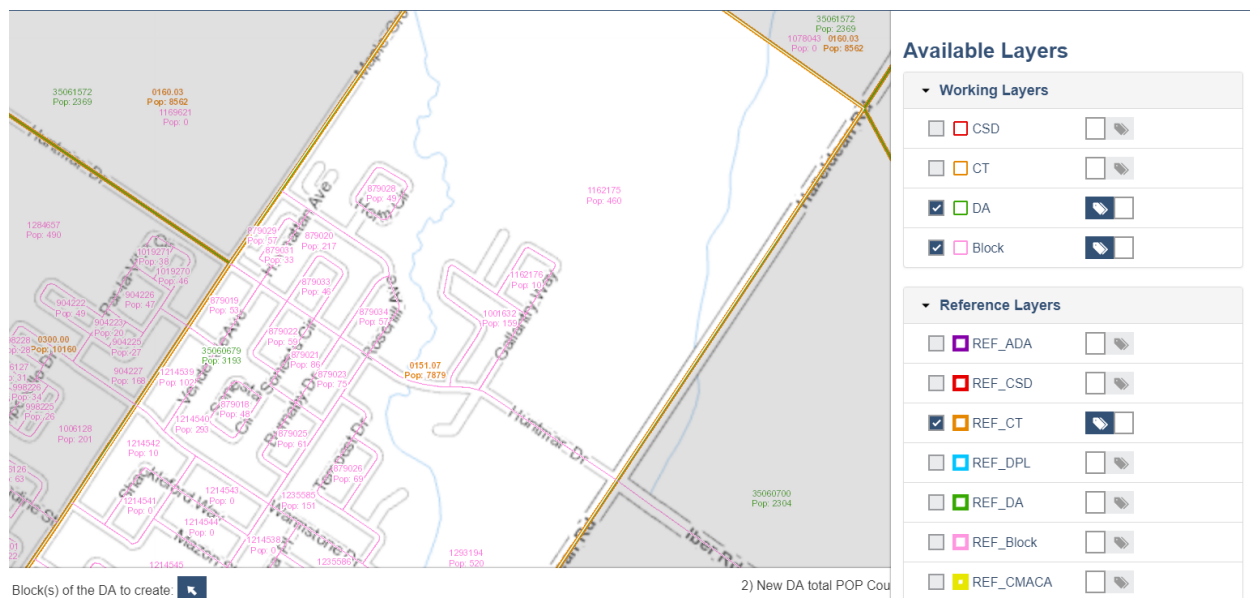
Choose a Work Region

'Choose a Work Region' is used to select a work region. Detailed information is available in chapter 5.

Identified Information

'Identified Information' is used to close or reopen the 'Identify Results' panel.

System Menu Bar

The System Menu Bar gives the user access to the 'Show Help' and 'Logout' functions.

Show Help

The 'Show Help' opens the PDF version of the user guide. The user guide can be accessed at any time while using the GET.

Logout

The 'Logout' ends the user's session and logs them out of the application. The application automatically logs the user out after 12 hours of inactivity.

Chapter 5 – Geographic Editing of a WR

Choosing a Work Region

Clicking 'Choose a Work Region' on the panel opens the 'Work Region' (WR) panel which gives the user access to the WRs that have been pre-assigned to them by Statistics Canada. Once there, the user is able to:

- Select a WR for editing
- Start editing a WR
- Submit a comment for a WR
- Stop editing a WR
- Complete edits for a WR and lock it from further editing

Work Region

1. Work Regions available for review/editing:

ID ⬆⬇	Active Geo ⬆⬇	BB ⬆⬇	Status
⚪ 0450	CT	DA	
⚪ 0618	CT	DA	🔒✏️
⚪ 0643	CT	DA	
⚪ 0659	CT	DA	
⚪ 2933	CT	DA	✏️
⚪ 2949	CT	DA	✏️

WR with a ✏️ have been edited.

WR with a 🔒 are completed.

2. Select a Work Region to modify from the list above;
3. Start editing:

[Start]

4. Mark the work region as complete:

[Complete]

Comments

Enter a comment about a work region

The WR panel is described as follows:

- ID: The ID represents the unique identification code associated with the level of geography.
- Active Geo: The level of geography that is available for editing
- BB: The default building block (BB) that is available to be used for editing a given WR. For CTs, two options of BBs are available, DAs and Blocks.
- Status: Indicates whether edits have been made for a WR by identifying it with a pencil (✏️). When all edits are competed, a lock (🔒) will be there.

'Choose a Work Region' for editing

- Select a work region (WR) from the list by clicking on the circle to the left of the Geographic ID.

- The WR ID represents the DA UID for a DA work region, and the CT CODE for a CT work region. A concordance file of CT CODE and CT UID (SAC_CODE + CT Official name) is provided to assist in identifying CT work regions and it can be found in the email the user received with the GET information.

- For CT editing: Please note that there are two available BBs for each work region where the Active Geo is CT. They are DAs and Blocks.

- After selecting a WR, click 'Start' and the map automatically zooms to the selected WR.

- On the map, the selected WR appears white and surrounding areas are grey. The grey areas are not accessible for editing. The WR in session is also indicated in the bottom-right corner of the screen.

- The user now has access to the editing functionalities for the selected WR (see page 15 for CT editing and page 21 for DA editing).

Submit a comment on the work region
- A comment can be added for the selected work region. If a WR is intentionally left unmodified, please leave a justification in the comment box. To do this, click the 'Choose a Work Region' icon ▦ again to open the work region panel.
- Scroll to the bottom of the panel to access the comment box and enter your comments (maximum 1,200 characters).
- Click 'Submit' to attach the comment to the WR.

Exit a Work Region (WR)
To exit an edit session of a WR:
- Click 'Stop', which re-enables the WR list.
- If edits have been made in the WR, a pencil image (✎), will appear in the 'Status' column.
- If the user has finished making edits, click 'Complete', which appears below 'Start', to mark editing in the WR as complete and lock the area from further editing. A confirmation message appears before finally making the WR 'Completed'. This action cannot be undone.
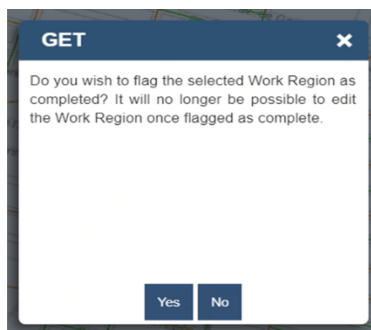
■ A completed WR has a lock symbol, (🔒) in the 'Status' column, indicating that it is completed and locked for further editing.

1. Work Regions available for review/editing:

ID ⬆⬇	Active Geo ⬆⬇	BB ⬆⬇	Status
○ 0450	CT	DA	
○ 0618	CT	DA	✏🔓

■ For both actions, the user may then quit the application or select another WR to work on.

Note: Clicking 'Split' or 'Swap' automatically saves all changes. If the user select BBs and clicks 'Stop' before clicking on 'Split' or 'Swap', the selection of BBs will not be saved.

Note: When a WR using a CT by DAs is "complete", the corresponding WR using a CT by Blocks will be automatically marked as "complete".

When a WR using a CT by Blocks is "complete", the corresponding WR using a CT by DAs will be automatically marked as "complete".

When the **first** edit has been done to a CT by Blocks, the corresponding CT by DAs will be automatically marked at "complete".

GCSA will automatically be notified when a WR is complete. The user is not required to notify the project.

Census Tract (CT) Editing

CT editing using the GET is designed to enable users to split pre-assigned CTs that have high population using existing DAs **or** Blocks as Building Blocks (BBs). As explained in the Work Region section, two BBs are available for CT edits: DAs and Blocks. Users only need to choose one of the two options for modification. Please note, it is recommended that the modifications be completed using DAs.

If neither DA nor Block boundaries are suitable for the desired splits, please notify the GCSA team by email for further instructions.

The WR ID represents the original CT CODE for a CT work region. A concordance file of CT CODE and CT UID (SAC_CODE + CT Official name) is provided as a separate document to assist in identifying CT work regions.

Notes before proceeding with CT modification using Blocks as building blocks
1. Some small blocks exist that do not align to the actual shape of the features they represent for certain addresses, such as large apartment or condominium complexes. For clarification, zoom to a larger scale to see the address ranges represented by these blocks.

2. Small blocks, such as those that represent road medians and highway ramps, can be very small. Please be mindful of these when building the desired new CTs.

3. If Blocks are used as BBs for CT splits in place of DAs, the GCSA team will subsequently adjust any affected DA boundary that no longer aligns with or respects the new CTs, unless specific instructions to modify the DAs are received through the comment box or by email.

Split Census Tract
This tool allows the user to split a CT into two new CTs.

How to Split
The 'Split CT' tool located in the bottom left corner is the default action.
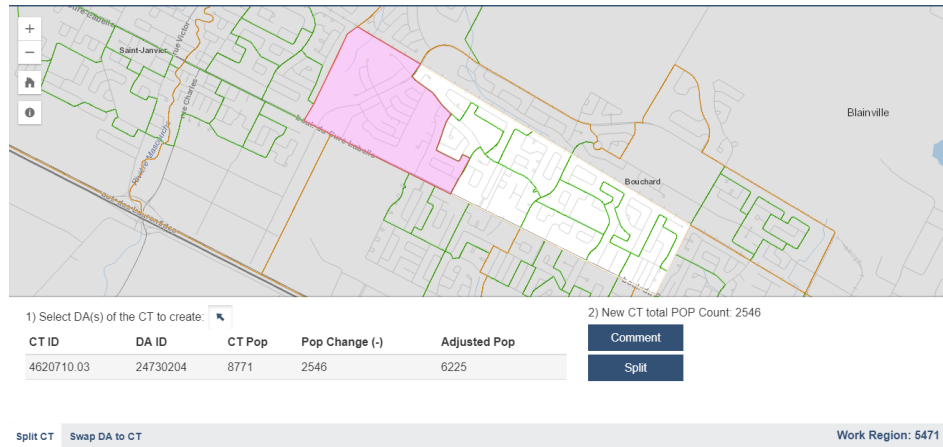

1) Click the to enable the selection tool. Once enabled, the icon turns white.

2) Select all BBs to form a desired new CT by clicking on one BB at a time. The selected BBs appear pink.

- As BBs are selected, the population of each BB and the total population of the new CTs appear in the information panel. A message appears if one or more of the populations of the new CTs falls below or exceeds the recommended CT population range of 2,500 to 7,500. The message is for information purposes only; the requested split is still allowed by GET.
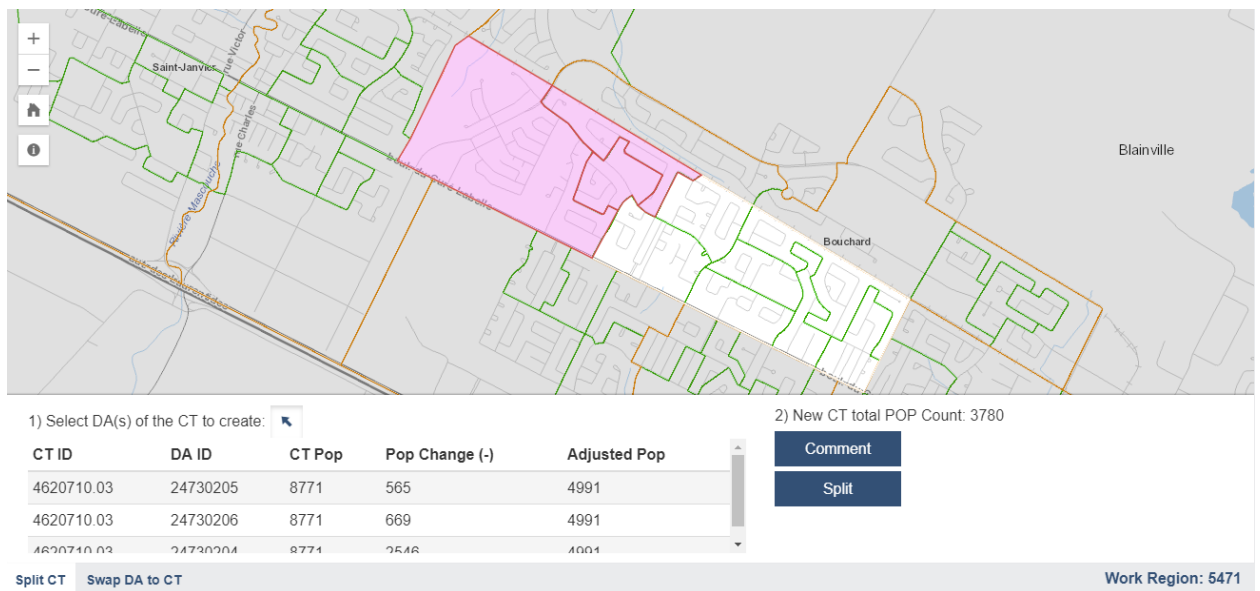
- Comments regarding the requested split can be added in the comment box by clicking on 'Comment' and entering text. Comments are requested in the following scenarios:
  - ➢ Splits causing the creation of CTs to fall below or exceed the recommended CT population range of 2,500 to 7,500;
  - ➢ Splits using Blocks as BBs might affect DA boundaries. For these, please provide specific instructions of how to modify the DAs. If no instructions are received, the affected DAs will be modified by GCSA according to the definitions and guidelines on DA maintenance.
  - ➢ Other information that can be helpful to add includes the land use within the CT and the description of boundaries of the new CTs (follows creek, etc.).
- Click 'submit' to save the comment with the associated Work Region.

When 'Split' is clicked:

- The selected BBs form one CT, and the remaining BBs form another CT.
- The boundaries of the new CTs are updated on the map.
- The population of the new CTs is updated on the map and in the Identify panel.
- A code is given to each new CT. It is important to note that this is a temporary code and may not be the final code that is assigned to the CT when the final version of CTs is produced for the 2021 Census.

- A newly created CT that contains more than one BB can be further split by repeating the above steps.
-

If the new CT becomes multipart

- If the BBs that are selected in the split caused the creation of a multipart CT, which is not permitted, an error message appears when the user clicks on 'Split'.
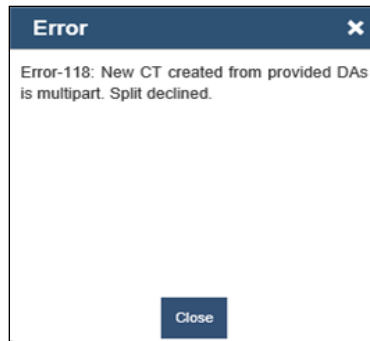
Swap Building Blocks between Census Tracts

This tool allows the user to refine a newly created CT by swapping one or more BBs from one newly created CT (source) to another newly created CT (target).

How to Swap

- Select the 'Swap BB to CT' tool from the panel at the bottom left of the screen (in the image below, the BB is the DA).

1) Click the on the left side of the information panel to enable the selection tool. Once enabled, the button turns white.
   - Select the target CT on the map. This is the CT that receives the selected BB(s). The target CT is highlighted in green.
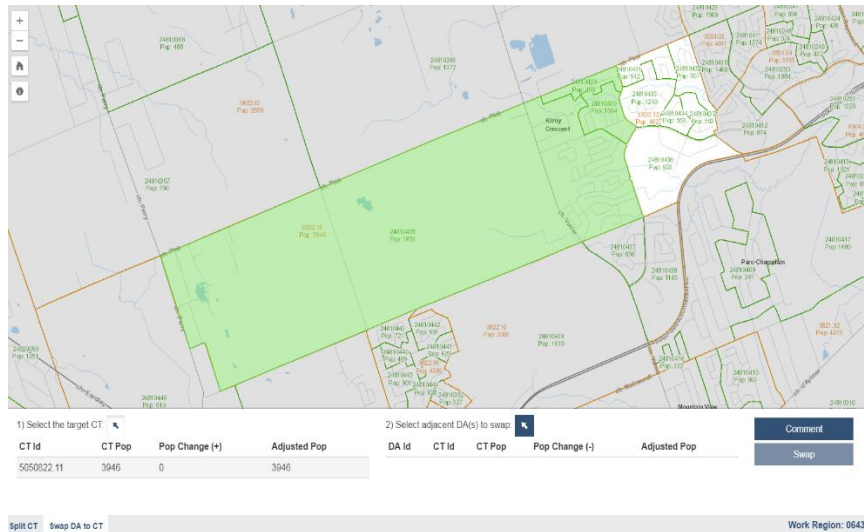
2) Click the second in the centre of the information panel to enable the selection tool to select the BBs to swap. Once enabled, the button turns white.

- On the map, select all BB(s) to be swapped to the target CT. The BB(s) must be in a CT other than the target CT and must be adjacent to the target CT, or adjacent to other blocks that have been selected to swap. Selected BBs appear pink

- As BBs are selected, the population of each BB and the adjusted population of each CT appear in the information panel. A message appears if the modified CT falls under or exceeds the recommended CT population range of 2,500 and 7,500. However, the swap is still valid. Here is an example of a message users can get.

- Comments about the swap can be added in the comment box. For any swap involving the creation of CTs with low or high population, please include justification in the comments. For any swap using Blocks as the BBs that results in new CT boundaries not aligning with existing DA boundaries, please indicate in the comments any specific instruction to modify the DAs.

- Other information that can be helpful to add includes the land use of the CT, and the description of boundaries of the new CTs (follows creek, etc.). To add a comment, click on 'Comment' and the comment box appears. Enter the comment and click 'Save'.

When 'Swap' is clicked:
- The selected BBs are added to the target CT.
- The boundaries of the modified CTs are updated on the map.
- The population of the modified CTs is updated on the map and in the Identify panel.

- Subsequent swaps can be completed by repeating the steps above.

If the selected BB(s) are not adjacent to the target CT
- If the BBs that are selected to be swapped are not adjacent to the target CT, it will cause the creation of a multipart CT, which is not permitted. In this case, the following error message appears when 'Swap' is clicked.
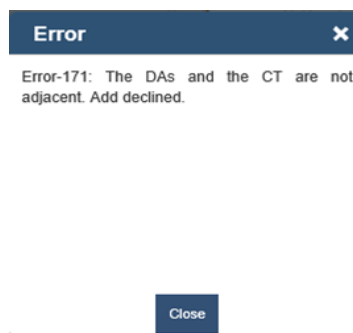
Please ensure to 'complete' the WR when all the modifications are made (see page 13 'Edit a WR').

Dissemination Area (DA) Editing

DA editing using the GET is designed to split pre-assigned DAs that have high population using existing Block boundaries. If existing Block boundaries are not suitable for the desired splits, please notify the GCSA team by email for further instructions. However, it is strongly recommended that the modifications follow existing block boundaries.

The WR ID represents the DA UID for a DA work region.

Notes before proceeding with DA modification

1. Some small blocks exist that do not align to the actual shape of the features they represent at certain addresses, such as large apartment or condominium complexes. For clarification, zoom to a larger scale to see the address ranges represented by these blocks.

2. Small blocks, such as those that represent road medians and highway ramps, can be very small. Please be mindful to include all of them in the desired new DAs.

Split DA

This tool allows the user to split a DA into two new DAs.

How to Split

- The 'Split DA' tool located in the bottom left corner is the default action.
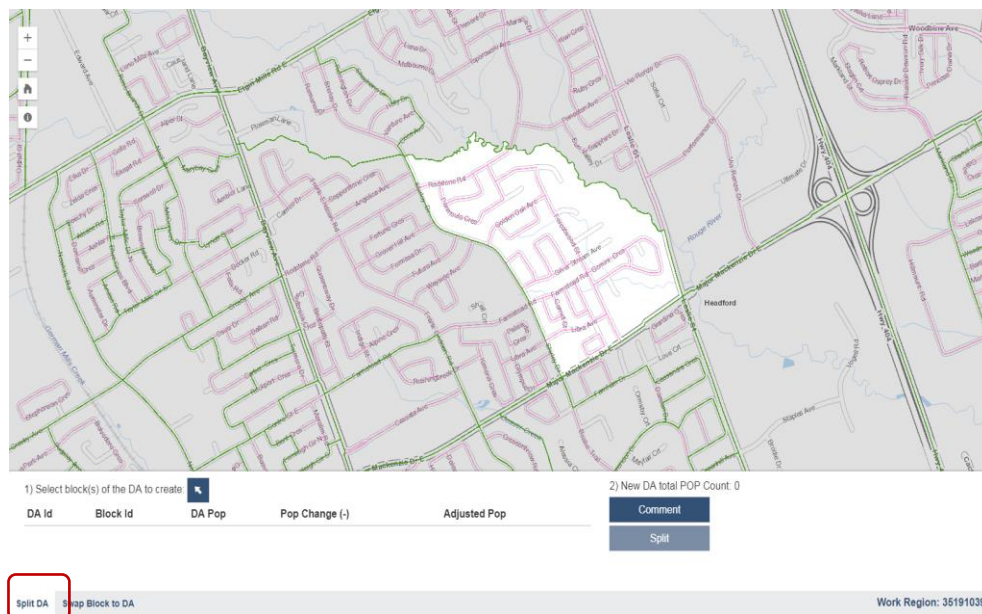
- Click the to enable the selection tool. Once enabled, the button turns white.

- Select all BBs to form a desired new DA by clicking on one BB at a time. These BBs appear pink.

1) Select block(s) of the DA to create: ↖

DA Id	Block Id	DA Pop	Pop Change (-)	Adjusted Pop
35191039	748965	3956	40	2116
35191039	748966	3956	98	2116
35191039	748961	3956	133	2116

Population count is high for the losing geography.

2) New DA total POP Count: 1840

Comment

Split

Split DA   Swap Block to DA   Work Region: 35191039

- As BBs are selected, the population of each BB and the adjusted population of the new DAs appear in the information panel. A message appears if one or both of the population of the new DAs falls below or exceeds the recommended DA population range of 400 and 2,000. However, the split is still valid. Here is an example of a message a user can get.

GET ✖

The population of the losing geography is above the maximum threshold. Would you like to proceed with the edit action?

Yes   No

- Comments about the split can be added in the comment box. For any split involving the creation of DAs with low or high population, please include justification in the comments. To add a comment, click on 'Comment' and the comment box appears. Enter the comment and click 'Save'.

Comment ✕

[ ]

Save

When 'Split' is clicked:

- The selected BBs form one DA, and the remaining BBs form another DA.
- The boundaries of the new DAs are updated on the map.
- The population of the new DAs is updated on the map and in the Identify panel.
- A temporary DA UID is given to each new DA. It is important to note that this is a temporary code and may not be the final code that is assigned to the DA when the final version of DAs is produced for the 2021 Census.

- A newly created DA that contains more than one BB can be further split by repeating the above steps.

If the new DA becomes multipart

- If the BBs that are selected in the split cause the creation of a multipart DA, which is not permitted, the following error message appears when the 'Split' is clicked.

GET ✕

Error: The Blocks and the DA are not adjacent.
Add declined.

Close

Swap Building Blocks to DA

This tool allows the user to refine a newly created DA by swapping one or more BBs from one newly created DA (source) to another newly created DA (target).

How to Swap

- Select the 'Swap BB to DA' tool from the panel at the bottom of the screen.

- Click the first on the left side of the information panel to enable the selection tool to select the target DA. Once enabled, the button turns white.

- Select the target DA on the map. This is the DA that receives the swapped BB(s). The target DA appears green.

- Click the second in the centre of the information panel to enable the selection tool to select the BB(s) to swap. Once enabled, the button turns white.

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- On the map, select the BB(s) to be swapped to the target DA. The BB(s) must be in a DA other than the target DA and must be adjacent to the target DA. These BBs appear red.

- As BBs are selected, the population of each BB and the adjusted population of each DA appear in the information panel. A message appears if the modified DAs fall under or exceed the recommended DA population range of 400 and 2,000. However, the swap is still valid. Here is an example of a message users can get.

Comments about the swap can be added in the comment box. For any swap involving the creation of DAs with low or high population, please include justification in the comments. To add a comment, click on 'Comment' and the comment box appears. Enter the comment and click 'Save'

Comment   ✖

Save

When the 'Swap' is clicked:

- ▪ The selected BB(s) are added to the target DA.
- ▪ The boundaries of the modified DAs are updated on the map.
- ▪ The population of the modified DAs is updated on the map and in the Identify panel.

1) Select the target DA: ⬉				2) Select adjacent block(s) to swap: ⬉					Comment
DA Id	DA Pop	Pop Change (+)	Adjusted Pop	Block Id	DA Id	DA Pop	Pop Change (-)	Adjusted Pop	Swap

Split DA   Swap Block to DA   Work Region: 35191038

- ▪ New swaps can be completed by repeating the steps above.

If the selected BB(s) are not adjacent to the target DA

- ▪ If the BBs that are selected to be swapped are not adjacent to the target DA, it would cause the creation of a multipart DA, which is not permitted. In this case, the following error message appears when 'Swap' is clicked.

Error

Error: New DA created from provided Blocks is multipart. Split declined.

Close

Please ensure to 'complete' the WR when all the modifications are made (see page 13 'Edit a WR').

Chapter 6 – Glossary

Building Block (BB)
The Building Block is the basic unit of geography used to edit a given geographic area). For the CTs, the BBs are the DAs or Blocks. For the DAs, the BB is the block.

Census Metropolitan Area and Census Agglomeration (CMA/CA)
A census metropolitan area (CMA) or a census agglomeration (CA) is formed by one or more adjacent municipalities centred on a population centre (known as the core). A CMA must have a total population of at least 100,000 of which 50,000 or more must live in the core based on adjusted data from the previous Census of Population Program. A CA must have a core population of at least 10,000 also based on data from the previous Census of Population Program. To be included in the CMA or CA, other adjacent municipalities must have a high degree of integration with the core, as measured by commuting flows derived from data on place of work from the previous Census Program.

If the population of the core of a CA falls below 10,000, the CA is retired from the next census. However, once an area becomes a CMA, it is retained as a CMA even if its total population declines below 100,000 or the population of its core falls below 50,000. All areas inside the CMA or CA that are not population centres are rural areas.

When a CA has a core of at least 50,000, based on data from the previous Census of Population, it is subdivided into census tracts. Census tracts are maintained for the CA even if the population of the core subsequently falls below 50,000. All CMAs are subdivided into census tracts.

Census Subdivision (CSD)
Census subdivision (CSD) is the general term for municipalities (as determined by provincial/territorial legislation) or areas treated as municipal equivalents for statistical purposes (e.g., Indian reserves, Indian settlements and unorganized territories).

Census Tract (CT)
Census tracts (CTs) are small, relatively stable geographic areas that usually have a population of less than 10,000 persons, based on data from the previous Census of Population Program. They are located in census metropolitan areas and in census agglomerations that had a core population of 50,000 or more in the previous census.

A committee of local specialists (for example, planners, health and social workers, and educators) initially delineates census tracts in conjunction with Statistics Canada. Once a census metropolitan area (CMA) or census agglomeration (CA) has been subdivided into census tracts, the census tracts are maintained even if the core population subsequently declines below 50,000.

Dissemination Area (DA)
A Dissemination Area (DA) is a small, relatively stable geographic unit composed of one or more adjacent dissemination blocks. It is the smallest standard geographic area for which all census data are disseminated. DAs cover all the territory of Canada.

Geospatial Editing Tool (GET)
The Geospatial Editing Tool is an application that allows the user to verify, split and/or merge CTs and DAs with a high population.

Multipart

A geography that is in more than one part. A user must select adjacent BBs to create a new CT or DA in GET, as multipart geographies are not accepted.

Work Region (WR)

The Work Region is a CT or a DA with a high population. They are assigned to a user in the Geospatial Editing Tool by Statistics Canada.