

November 29, 2001

Creating City Neighborhoods (and Other Kinds of Districts) from 2000 Census Blocks

Peter S. Wattson
Senate Counsel

The following procedure has been used to create neighborhoods in Minneapolis and planning districts in St. Paul that follow census block boundaries. There are many steps in the procedure, but each step, other than reviewing the plan for errors, takes only a few seconds. The whole process should take less than an hour.

The same procedure can be used to create a plan of current precincts, city council wards, or county commissioner districts. (In most cities, the ccvtd.cdf file from Caliper Corporation already contains the current precincts built from census blocks, so the process of building current wards and county commissioner districts could begin at the precinct level, rather than at the block level.) The plan layer can then be exported to a compact geographic file and added to the map as a permanent layer showing the current boundaries. The plan can then be used to draw new boundaries. When the new boundaries are done, the plan layer can be exported to a compact geographic file showing the new boundaries.

The files used are those in the LCC redistricting database called "LCC 2000," which is a modified version of the files provided to the LCC by Caliper Corporation on March 29, 2001.

1. Create a separate directory for the city, e.g. C:\Maptitude\Data\Cities\ (e.g., Minneapolis)
2. Create compact geographic file of census blocks in the city
 - a. Open ccblk.cdf
 - b. Add layer: ccmcd.cdf
 - c. Open dataview in Citytown00 layer
 - i. Select by Condition: MCD_Name = "(e.g., Minneapolis)"
 - ii. Copy the MCD number for the city (e.g. 2705343000)
 - iii. Close Citytown00 dataview. Don't save
 - d. Open dataview in Census Blocks layer
 - i. Select by Condition: MCD = "(e.g., 2705343000)"
 - ii. Tools - Export - Compact Geographic File
 - (1) Export: Selection
 - (2) To: Compact Geographic File
 - (3) Data Field: None
 - (4) Save As: C:\Maptitude\Data\Cities\ e.g. (Minneapolis) Blocks.cdf
 - iii. Close Census Blocks dataview. Don't save
3. Create a map of city blocks
 - a. Open city block file, e.g. Minneapolis Blocks.cdf
 - b. Name the map: Save as (City) Blocks

- c. Rename layer: (City) Blocks. Make it permanent.
- d. Add (City) Neighborhoods layer to map. Count the number of neighborhoods
 - i. Open dataview
 - ii. Check the toolbar at the bottom of the page to see how many records have been selected (that's the number of districts you'll use to build a plan in a later step)
 - iii. Convert the neighborhood number to a district number
 - (1) Modify Table
 - (a) Add Field: District (character)
 - (b) OK
 - (2) Convert the neighborhood number from an integer to a character, with enough leading zeroes for the number of districts you'll have (so that 1-9 sort before 10-90)
 - (a) Highlight "District" column
 - (b) Fill - Formula - Function - format((neighborhood number field),"00.")
 - (c) OK
- e. If you wish to add other layers to the map, such as TIGER/Line segments or highways, that consist of lines that cross city boundaries, use the Clip by Area function
 - i. Set the working layer to Citytown00
 - ii. Select the city by pointing to it
 - iii. Zoom in or adjust the autoscale so that the layer you want to add, e.g. TIGER/Line Segments, is visible
 - iv. Change the working layer to the layer you want to add
 - v. Tools - Geographic Utilities - Clip by Area
 - (1) Make sure the layer you want to clip is shown in the very top menu bar, e.g. Clip By Area (Layer: TIGER/Line Segment)
 - (2) Clip Using Layer: Citytown00
 - (3) Selection: Selection
 - (4) Add layer to map: Yes
 - (5) OK
 - (6) Save As: C:\Maptitude\Data\Cities\((City))e.g. (Minneapolis) TIGERLine Segments.cdb (Hint: you must omit the / from the file name; it is an illegal character for a file name.)
 - vi. The new layer is in standard geographic file format (*.dbd). You may wish to export it to compact geographic file format (*.cdf), both to save space and to insure the lines cannot be edited inadvertently.
 - (1) Open the standard geographic file
 - (2) Tools - Export
 - (a) Export: All Records
 - (b) To: Compact Geographic File
 - (c) Data Field: ID
 - (d) Node Data: ID

- (e) Save As: C:\Maptitude\Data\Cities\ (City)\e.g. (Minneapolis) TIGER Line Segments.cdf (Hint: The name must be different from the name you gave to the standard geographic file, but only slightly. In this example, I added a space between “TIGER” and “Line”.)
 - (3) Delete the 14 files with the same name as the dbd file, leaving the four files with the name of the cdf file
 - f. Create an import file for neighborhoods as districts in a plan
 - i. Tag the blocks with the neighborhood number
 - (1) Select block layer - Dataview
 - (2) Tag the blocks with the neighborhood number: Edit - Fill - Tag
 - (a) Using layer: (City) Neighborhoods
 - (b) Tag with: (neighborhood number)
 - ii. Create an import file for the district numbers
 - (1) Dataview Fields
 - (a) Clear
 - (b) Add: BLK, District
 - (2) Save As: C:\Maptitude\Data\((City))\((City) Nbrh Import.dbf
 - (3) Close dataview
- 4. Create new redistricting plan for the city
 - a. Redistricting - Plan Manager - City library - New Plan - Based on Map - Using Current Map Window
 - b. Save Plan File As:
 - c. Create a new folder: C:\Maptitude\Plans\City\((City)
 - d. Save Plan File As: C:\Maptitude\Plans\City\((City))\((City) Neighborhoods
 - e. Import plan
 - i. Match Base Layer Field: BLK
 - ii. To Import Layer Field: BLK
 - iii. Fill District From: District
 - f. Control Field: Population
 - g. Number of Districts: (number of neighborhoods, as determined under 3d)
 - h. Ideal Population: compute
 - i. Field to Identify Features in Reports: Name
 - j. OK
- 5. If the plan creates properly, finish with the plan settings: Redistricting - Settings - Plan Settings
 - a. Properties
 - i. Plan Type: City
 - ii. Administrator: (your name)
 - b. Summary Fields
 - i. Drop - (drop Population 1990, if you don't want it)
 - ii. Add
 - (1) Race data.
 - (a) To get the minority reports to run, you must add all the race

15. Finish the new neighborhood layer
 - a. Open the standard geographic file created by the redistricting plan (it's in the city neighborhood plan folder): (City) Neighborhoods.dbd
 - b. Export to compact geographic file in the city's data folder: Tools - Export - Compact Geographic File - C:\Maptitude\Data\City\City\ (City) Neighborhoods.cdf
 - c. Close plan file map
 - d. Open (City) Neighborhoods.cdf file in city data directory
 - i. Rename layer: (City) Neighborhoods
 - ii. Open dataview
 - (1) Modify Table: Drop unnecessary plan fields: Members, Locked, Name
 - (2) Join neighborhood names to new neighborhood layer
 - (a) Join Type = One to One Join
 - (b) Copy Joined Fields
 - (c) Drop unnecessary fields
 - iii. Close dataview
 - e. Close (City) Neighborhoods.cdf file