


3.2 Clipping Data Layers

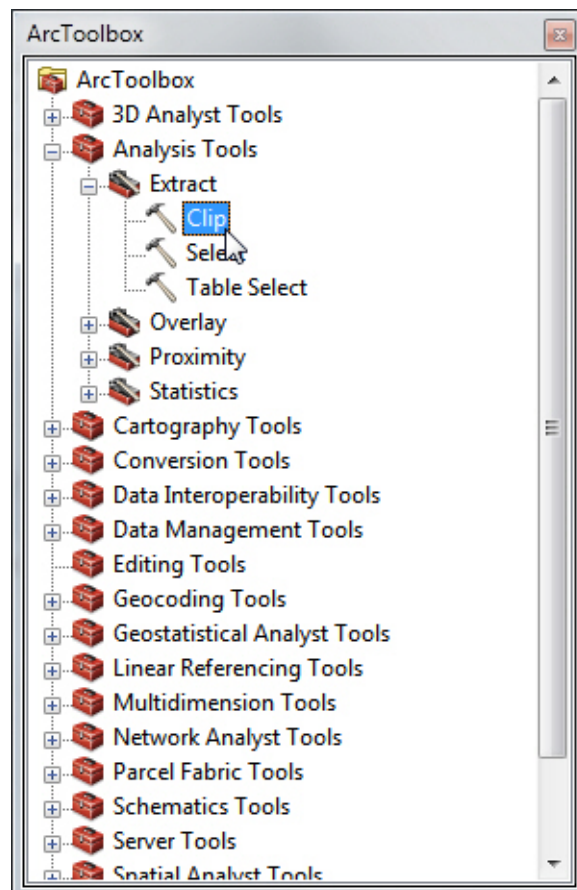
Many times you will want to use a smaller part of a layer (like only the roads in one school district or town, not the whole county). This technique, called “clipping,” is pretty easy to use.

Clipping Out Part of a Layer

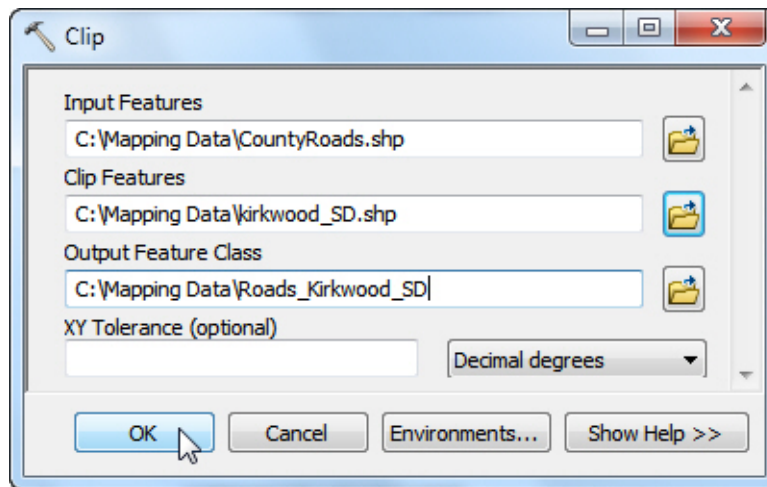
To clip out part of a layer, you actually need two layers: the one you are clipping and the one that provides the boundaries of the “clip.”

In this example, we’ll clip out the roads for one school district from the larger county road layer. Metaphorically, the school district boundary will be the cookie cutter and the road layer the dough. **If you need to make the cookie cutter first, see the suggestions on page 3.2.3.**

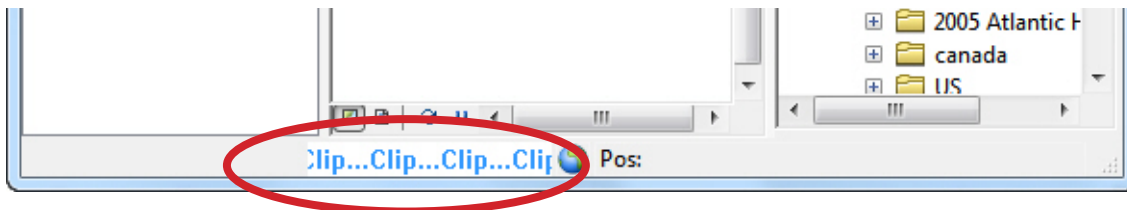
- 1) Within ArcMap, open ArcToolbox by clicking on the small red toolbox icon ().
- 2) In ArcToolbox, double-click “Analysis Tools,” double-click “Extract,” and finally double-click “Clip.” This will open a dialog box where you can choose the layers you need.



- 3) In the “Clip” dialog box, choose the input features (the County Roads in this case) and the clip features (the Kirkwood school district). If the layers aren’t already loaded into the project you are working on, you can navigate to them by clicking on the folder icons next to each feature.
- 4) Choose the name and location for the output layer.




- 5) When you click “OK,” ArcMap starts to make your clipped layer. The program will run the word “Clip” across the bottom of the window while it is working. When the clipping is complete, close the dialog box and you will see your layer in ArcMap.

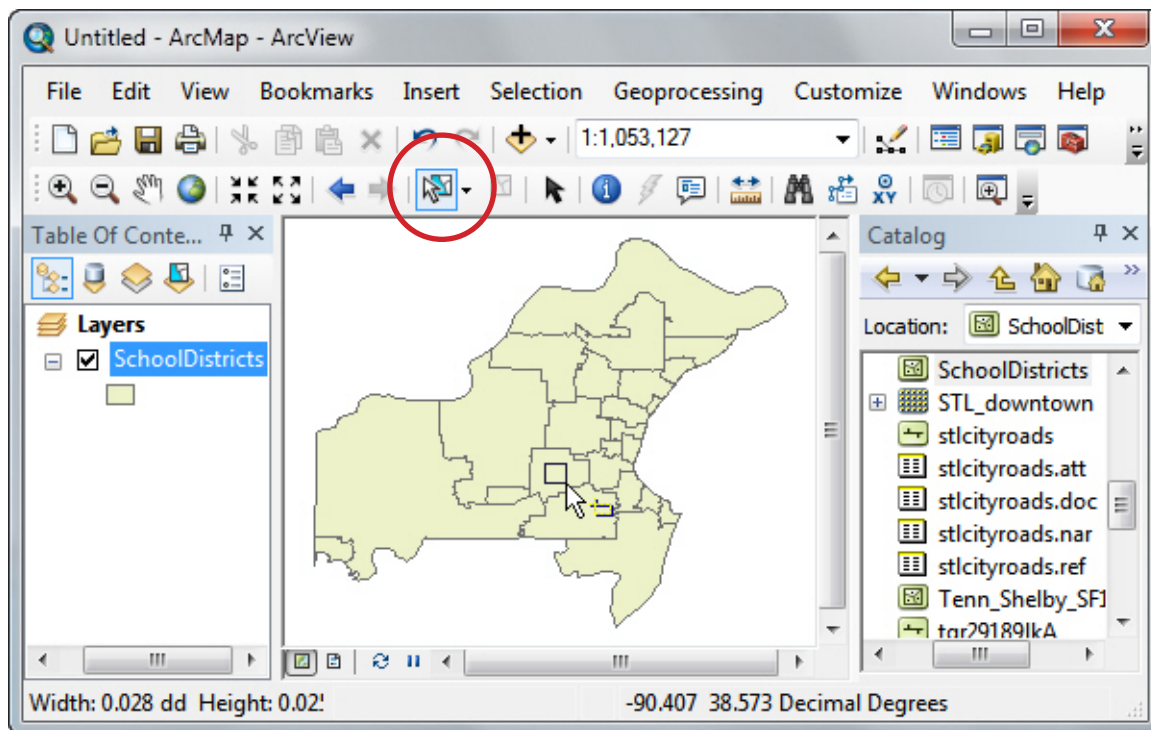


- 6) To zoom in on your new layer, right-click (in the Table of Contents) on the layer name and choose “Zoom to Layer.”

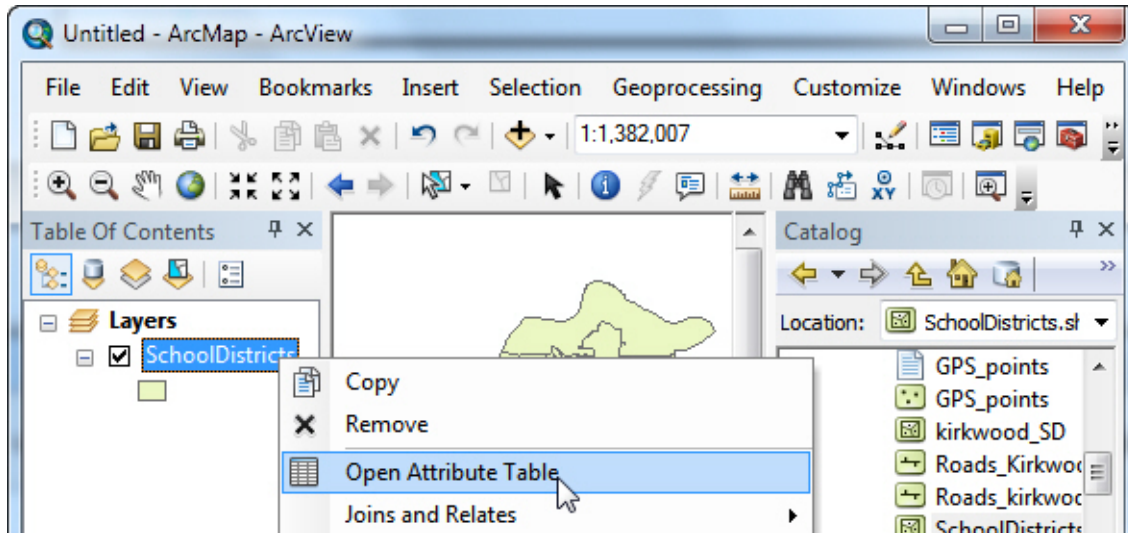
Making a Good “Clip Layer”

Many times you won't have the specific area you are interested in as a separate layer ahead of time. In the example above, the Kirkwood School District clip layer started as a layer containing all of the school districts in St. Louis County, but with just a few quick steps we can create a new layer that only contains the Kirkwood district.

- 1) If you have multiple layers on your map, be sure the one you want to clip is the one highlighted in the Table of Contents.
- 2) There are several ways to make the clip layer:
 - A) Option 1: Click on the **Select Features** tool () from your tool palette. Click and drag a small box in the area you want to select. Be sure your box does not go outside the boundaries of the area you want in your clip layer. The selected parts will be highlighted in cyan blue. If you accidentally select too much, you can go back to the Selection menu and choose “Clear Selected Features.” Then try your selection again.



- B) Option 2: Alternately, you can select the area you want by using the **Attribute Table**. To do this, right click on the layer name, and in the menu that appears select “Open Attribute Table.”



At the top of the Attribute Table, click on the “Select by Attributes” tool ().

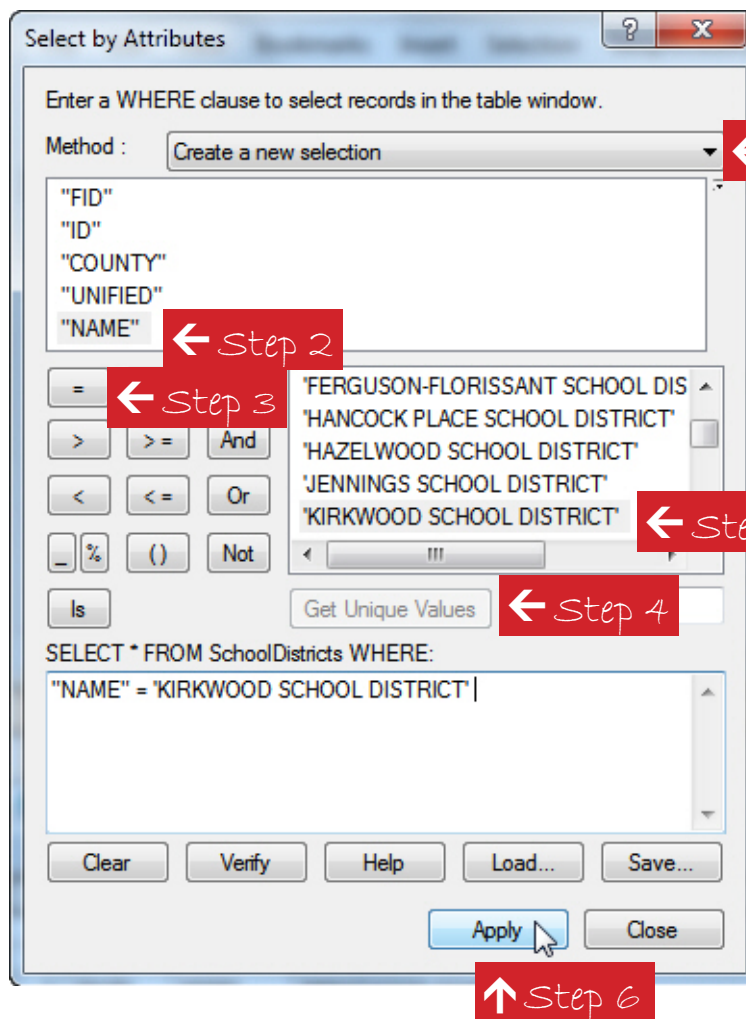
The screenshot shows the Attribute Table window for the 'SchoolDistricts' layer. The table contains the following data:

FID	Shape	ID	COUNTY	UNIFIED	NAME
0	Polygon	1	29189	02910	AFFTON SCHOOL DISTRICT
1	Polygon	2	29189	04500	BAYLESS SCHOOL DISTRICT
2	Polygon	3	29189	05880	BRENTWOOD SCHOOL DISTRICT
3	Polygon	4	29189	09720	CLAYTON
4	Polygon	5	29189	12010	FERGUSON-FLOISSANT SCHOOL DISTRICT
5	Polygon	6	29189	13620	HANCOCK PLACE SCHOOL DISTRICT
6	Polygon	7	29189	13830	HAZELWOOD SCHOOL DISTRICT
7	Polygon	8	29189	16290	JENNINGS SCHOOL DISTRICT
8	Polygon	9	29189	16770	KIRKWOOD SCHOOL DISTRICT

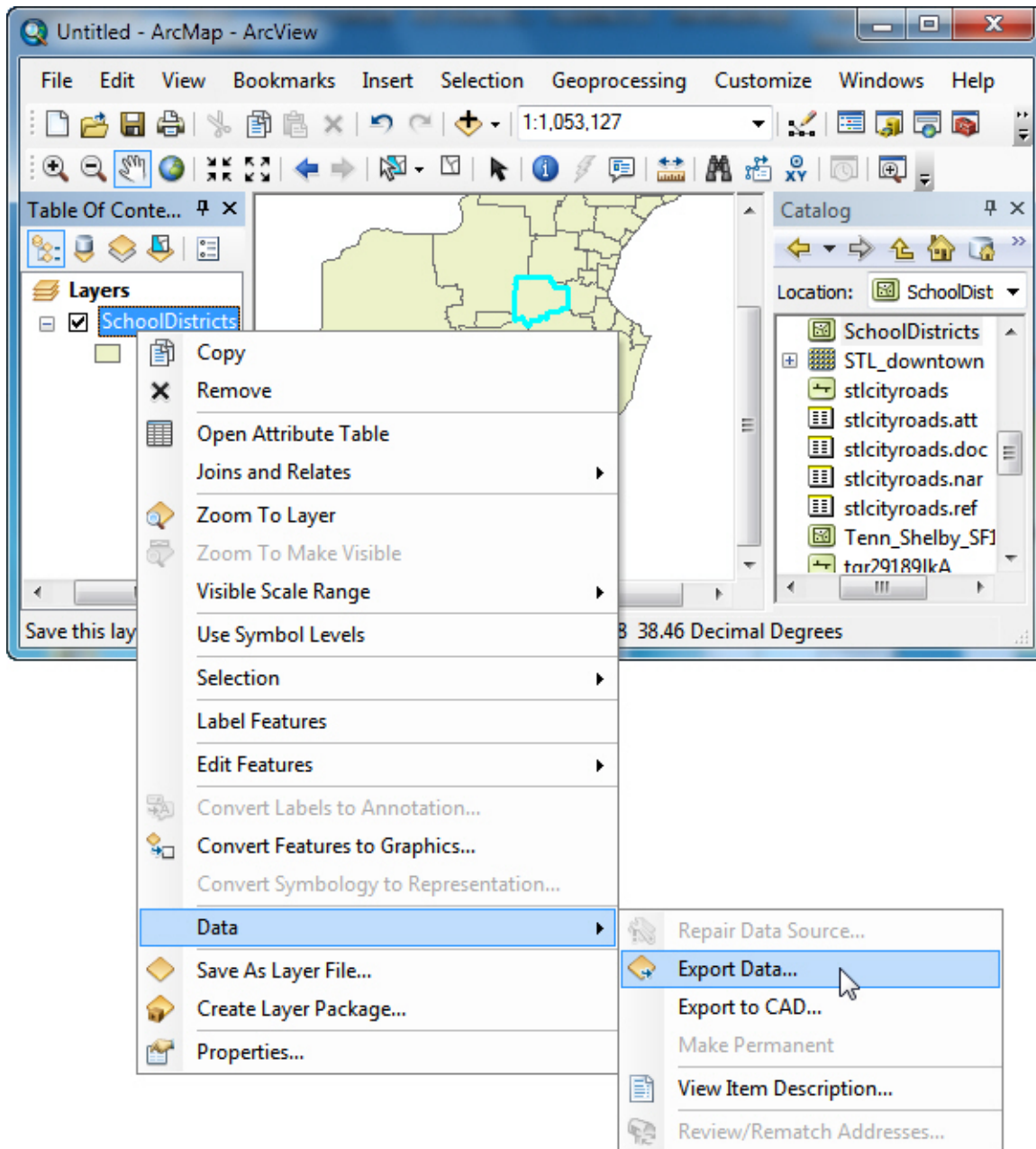
The 'Select by Attributes' tool icon is highlighted at the top of the window. The status bar at the bottom indicates '(0 out of 24 Selected)'.

In the dialog box that appears:

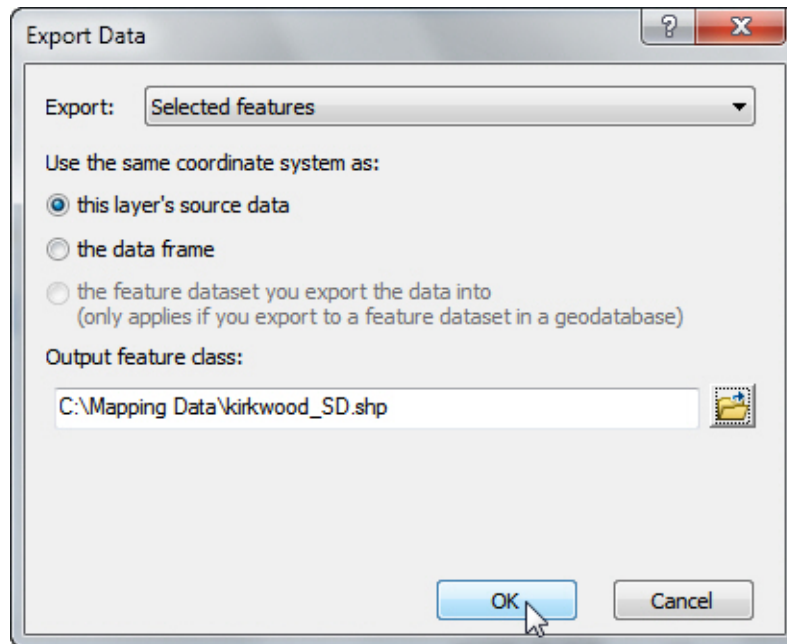
- 1) Choose “Create a new selection” as the Method.
- 2) Double-click on “Name.”
- 3) Single-click on the Equals button (=).
- 4) Click on the “Get Unique Values” button (Get Unique Values). This will populate the box above it.
- 5) Double-click on “Kirkwood School District.”
- 6) Click “Apply.”



- 3) Now that the Kirkwood School District is selected, it is shown on the map with a highlighted border.
- 4) In the Table of Contents, right-click on the layer containing the selected feature, and choose “Data” and then “Export Data.”



- 5) In the dialog box that appears, choose to export “Selected features.” Use the same coordinate system as “this layer’s source data.” Then choose a name and location for your new file. ArcMap automatically calls the new file Export_Output.shp. You should rename it to something that makes sense (although leave the .shp ending intact). When you are finished renaming click “OK.”



- 6) When asked, add the exported data to your project.

You can then proceed with the clipping operation with the layer you just created.

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