# How to Import Shapefiles into Microsoft Access

This tutorial demonstrates how to import an ESRI shapefile into an Access database using the ArcCatalog. Microsoft Access databases are compatible with ArcGIS, as tables within Access databases can be directly accessed by ArcGIS and added to ArcMap. When geographic boundary files are exported to an Access database, the database can then serve as a personal geodatabase: a container for organizing and storing multiple geographic boundary files and data tables. (see the *How to Import Data into Microsoft Access* tutorial for importing data tables into Access).

If you do not already have an Access database where you intend to export the shapefile to, the first step is to create an empty database file (see the beginning of the *How to Import Data into Microsoft Access* tutorial for instructions on creating a new database). NOTE – if you are using ArcGIS 9.2, you MUST create the database within Arc Catalog by right-clicking in the table of contents, clicking *new*, and *new personal geodatabase*. You cannot import geospatial data into an Access database that was not created with ArcGIS 9.2. If you plan on using the database for just holding and working with tabular data, or you are using an earlier version of ArcGIS (8.3 to 9.1), you can safely create a database within Access, Windows Explorer, or ArcGIS, and it will work as a geodatabase.

Once you have a database, the next step is to open the ArcCatalog, and drill down to the directory that has the shapefile. In this example, we are using a shapefile of census tracts for Washington that we will import to a database called *censushousing*, which contains a data table with housing unit information from the US Census. Left-click on the shapefile and select *Export*, *To Geodatabase (single)* (See Figure 1).

Figure 1
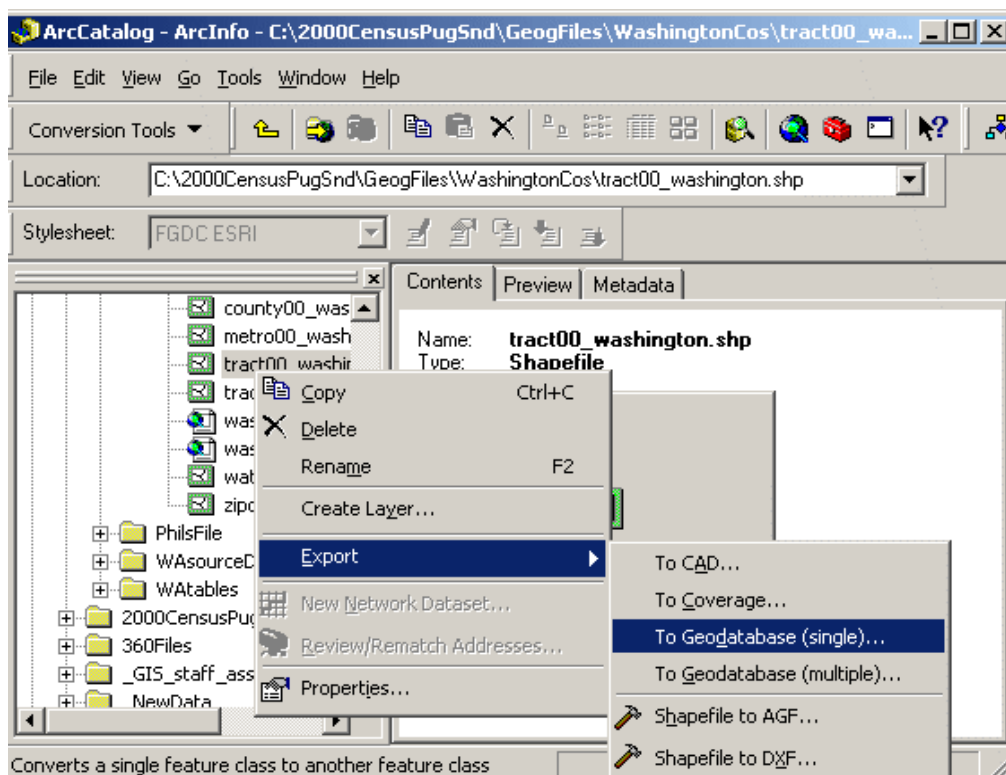
You will then be presented with the import window (Figure 2). The *Input Features* are the shapefiles that you are importing, the *Output Location* will be the Access database that you want to export the shapefile to, and the *Output Feature Class* will be the name of the new feature class that will appear in the database (once a shapefile is imported into a geodatabase, it becomes a feature class). The other features in the window are optional, and can usually be ignored. The list at the bottom of the window represents the

names and data types of the different fields (columns) in the shapefile's attribute table. These attributes will be carried over to the geodatabase.

Figure 2
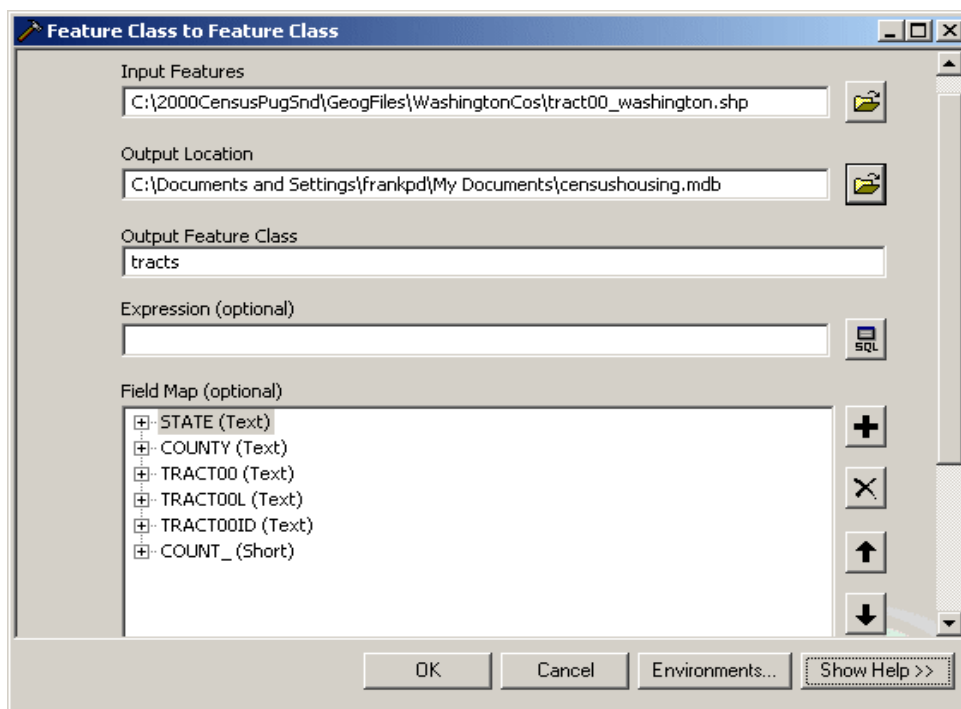
Once you hit OK, ArcCatalog will display a dialog box to show the progress of the export process, and will alert you once the process is complete. This process can take some time for large shapefiles. Once the export is complete, drill down to the directory where your database is stored (see Figure 3). ArcGIS depicts geodatabases as grey cylinders. Click on the database in the table of contents, and you will see a list of what it contains in the preview window. In this example, we see a data table called *censushousing* (which existed prior to our import) and a feature class called *tracts*.

Figure 3
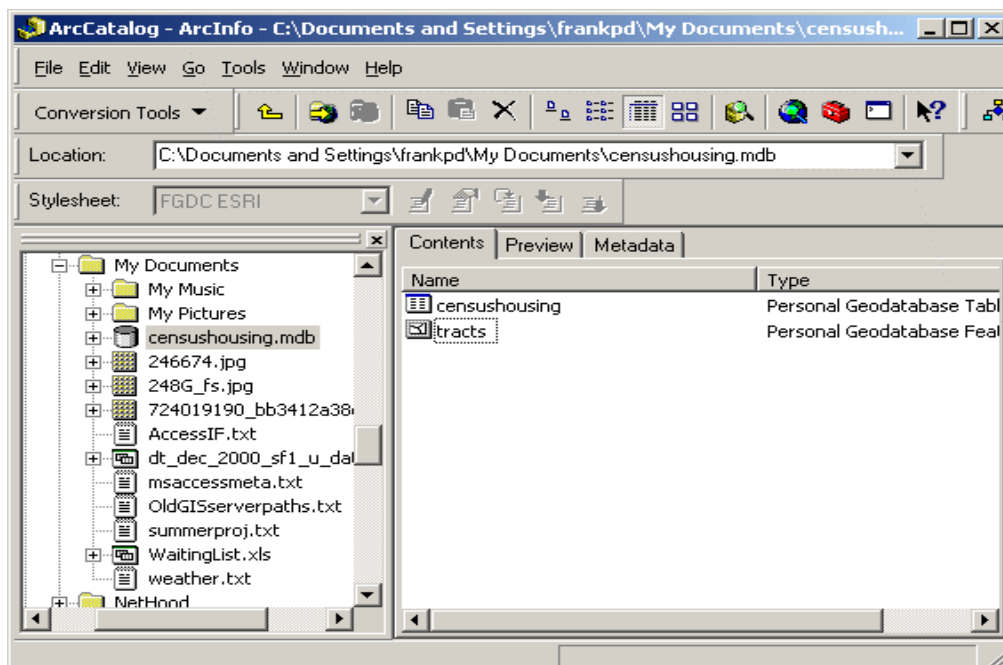
You can now add the feature class or table directly to ArcMap in the same manner that you would add any boundary or table file, using the *Add Data* button, which looks like a yellow plus + sign. You can preview the table in the Arc Catalog. You can also open the geodatabase in Microsoft Access, to see how the files appear within the database (Figure 4). You will see a long list of tables that all begin with *GDB*. The *tracts* feature class is actually composed of elements from all of these tables. If additional shapefiles were imported, data for those shapefiles would be stored in those geodatabase tables as well. Most users can safely ignore these tables. The *tracts* table is what actually contains the attribute data for the *tracts* feature class, and can be viewed and edited in the same manner as regular data tables, such as the *censushousing* table. Use caution when editing attribute tables, and never delete feature classes within Microsoft Access, as doing so could corrupt the database and make it unusable. Always use the ArcCatalog to delete feature classes from a geodatabase.

Figure 4