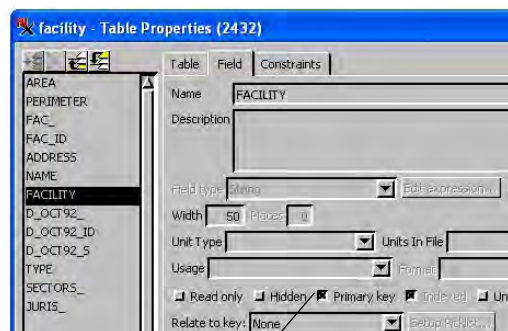## Database

# Create a Picklist for a Shapefile

The TNT products support direct use of shapefiles in any process that takes geometric object input (for example, Display, Edit, Merge to Vector). Shapefiles are files with a *.shp extension that contain one type of geometric element (point, line, or polygon) associated with a single database table. However, shapefiles are incomplete without one or more same-named additional files with different extensions that may accompany the shapefile. Examples of these same-named files are *.dbf that provides a database table, *.prj to provide georeference, *.avl to provide styles, a variety of index files (*.shx, *.sbn, *.sbx), and so on. The TNT products make use of these auxiliary files when available.

The accompanying *.dbf and *.shx files are the only additional files that are manditory for use of a shapefile (any other same-named files define optional properties). The *.shx file provides an index between the elements in the *.shp file and the records in the *.dbf file. Each element in the shapefile must have an attached record in this database file. However, this type of database file allows for only one table, which means it does not support relational databases. However, in TNTmips you can create a relational database for use with a shapefile. Additional related tables and other TNT features, such as display parameters, are stored in a TNT same-named *.rlk file. Other products displaying the same shapefile will not see these additional related tables.

right click here to choose Edit Relations

table link to original *.dbf file

The above tree diagram shows the relationships between tables formed when a shapefile is selected for direct display in the TNT products. The LegendNames table and style Assignment Table are created automatically in TNT when a shapefile is selected if it has a *.avl file with this information. This information is stored in the same-named *.rlk file.
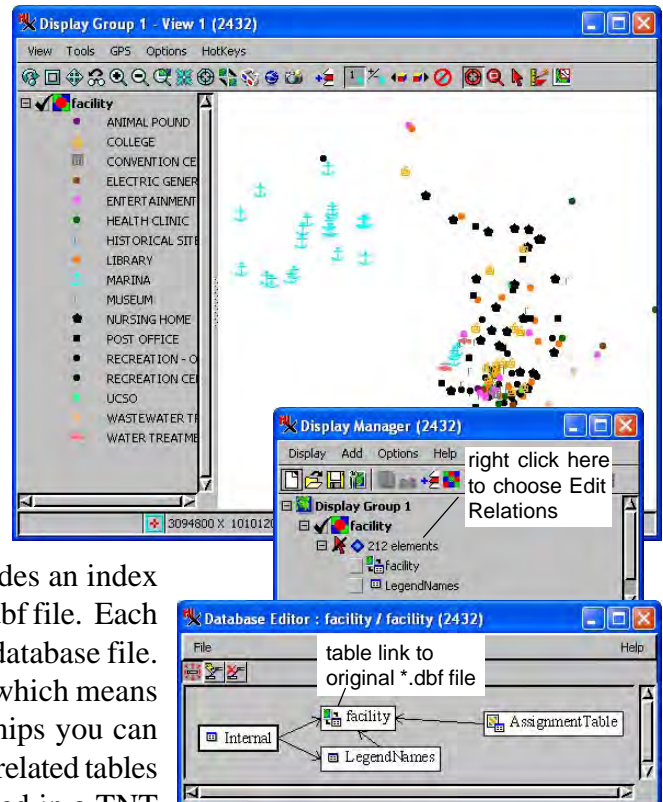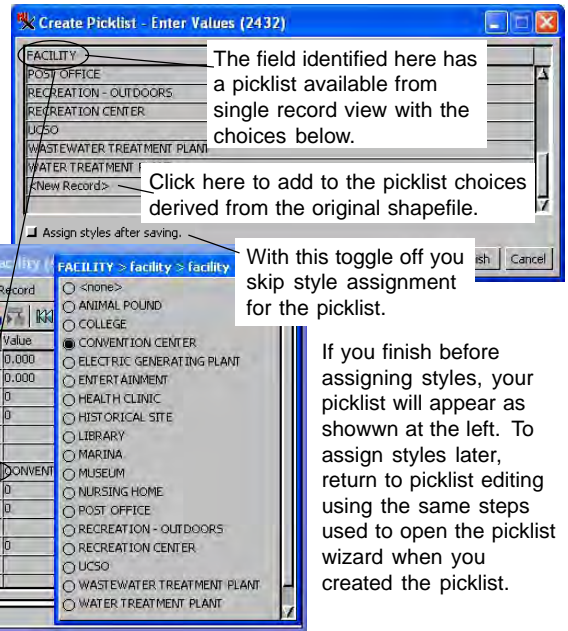
### Picklist Wizard

All the information you need for your picklist table is likely already in the shapefile and ready to use with the wizard to create a picklist. Simply right-click on the linked table (in this case, FACILITY) in the Display Manager or the Database Editor window, and select Properties. Locate the field you want to use for the picklist among those at the left of the Table Properties window. The field you want to use for the picklist is most likely the field used to specify the element drawing style. This field is designated as a primary key in the automatic linking used for direct display of shapefiles. Primary key fields cannot be used to generate picklists (see the TechGuide entitled *Database: Wizard to Create a New Picklist*). However, you just need to turn this toggle off for the Setup Picklist button to become active.

Turn off the Primary Key toggle to make the Setup Picklist button for the FACILITY string field become active.

Click on the Setup Picklist button to begin picklist creation using the wizard provided for this task. You are first prompted to name and provide a description for the picklist table. You can accept the defaults by clicking on the Next button or change the text as desired and then click on Next. You are then presented with the field name and type to use the picklist for. These default choices match the properties for the field high-

lighted when you clicked on the Setup Picklist button. You can add additional fields for reference, and they will appear in the picklist table but not in the picklist itself. See the TechGuide entitled *Database: Wizard to Create a New Picklist* for an illustrated description of the operation of this wizard.
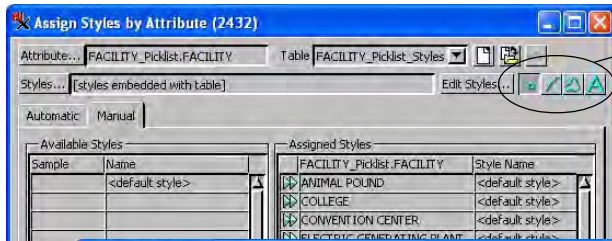
After you click Next in the Define Fields panel, the Enter Values panel will open and is pre-populated with all the existing values from the field for which you are setting up the picklist. There is a <new record> entry at the end of the list that lets you add additional values for assignment to elements if known at this time. Additional records with new values can also be added later. When you click on Finish in the Enter Values panel, you will return to the Table Properties window if the *Assign styles after saving* toggle is off or proceed to the Assign Styles by Attribute window if the toggle is on.

The field identified here has a picklist available from single record view with the choices below.

Click here to add to the picklist choices derived from the original shapefile.

With this toggle off you skip style assignment for the picklist.

If you finish before assigning styles, your picklist will appear as showwn at the left. To assign styles later, return to picklist editing using the same steps used to open the picklist wizard when you created the picklist.

## Assigning Styles to Picklists for Shapefiles

The easiest method for assigning styles to be shown in the picklist is to proceed to style assignment directly from the picklist wizard. When you click on the Setup Picklist button for an existing picklist, the wizard opens an Edit Picklist window that will let you add new choices to the picklist table and proceed to style assignment when you click OK if the *Assign styles after saving* toggle is on.

Style assignment for shapefiles presents all element types in a single window. Make sure the correct element type is selected in this window (for this example, points). To use the styles already set up for drawing the shapefile, click on the Styles button and navigate to the Styles subobject under the shape object that is selected for drawing the shape elements (not the style subobject under the picklist table, which is selected by default but is a new subobject with no initially defined styles). Making this selection creates a link to the original style subobject with styles provided by the AVL file and fills in the Available Styles panel with the styles used for drawing elements. It is then simply a matter of assigning styles to the desired attribute values using standard selection and assignment procedures (as shown at the left). If drawing styles have not been assigned by attribute, you can use the default style object to set up your new styles.

Select style object already used for drawing elements to populate this panel.
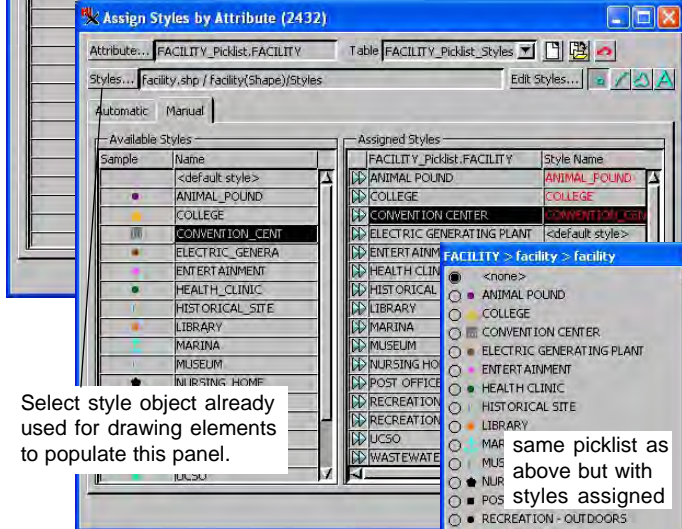
same picklist as above but with styles assigned
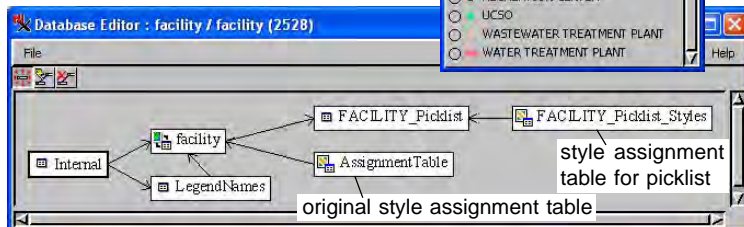
If additional records are added to the picklist and you design new styles for them, these styles will be available for drawing elements to which these new attribute values are assigned. Check that the correct style assignment table is selected by opening the Assign Styles by Attribute window from the Layer Controls and verify that the attribute selected is from the picklist table.

style assignment table for picklist

original style assignment table

Relationships between tables for the shapefile after picklist has been added and styled are shown. Remember that only the linked FACILITY external dbf file is viewable in other software packages.