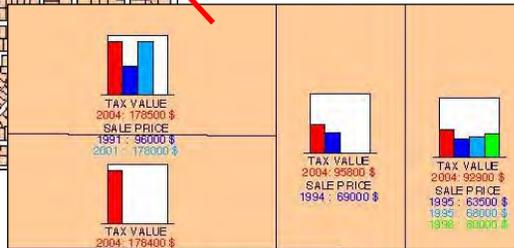# Urban Studies
Pin Mapping for Urban Analysis

TNTmips has powerful pin mapping tools for visualization of point locations directly from database materials. These tools include various representation alternatives such as simple points, symbols, pie charts, or bar graphs. Any table that contains X and Y coordinate fields in each record can be used for pin mapping. When the database of interest does not have X and Y coordinate fields, TNTmips lets you easily modify existing vector data for pin mapping purposes. TNTmips also lets you create a point vector object from a database pinmap. In this example, property prices in Grant township in Lancaster County, NE will be analyzed as a point vector object according to land use categories using a series of processes in TNTmips.

Land use vector layer

Pinmap layer in bar chart form is displayed over the land use layer.
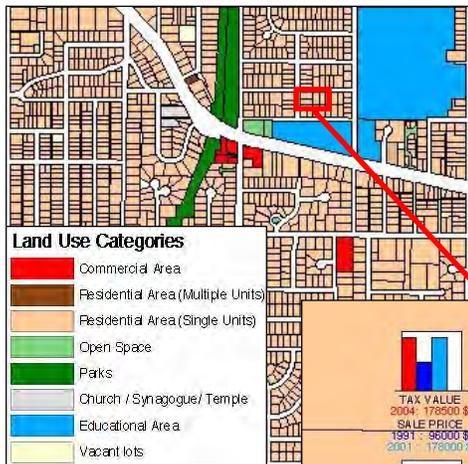
• **Acquire land use layer:** In this example, the land use of Grant township in Lancaster County, NE was obtained from the City of Lincoln and Lancaster County Information Systems Map Shop website (http://ims.ci.lincoln.ne.us/gisweb/) in ArcView shapefile format. The land use information for each parcel was imported into TNTmips using the Import process. The property information for each parcel was obtained from the Lincoln Property Viewer atlas.
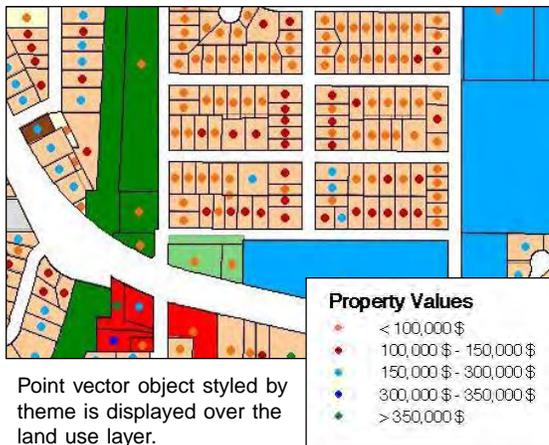
• **Create X and Y coordinate fields to represent each parcel:** The Object Statistics process (Geometric/Attributes/Standard) provides an easy way to create X and Y coordinate fields. When the Compute Point in Polygon button is toggled on, two new fields, PointInPolyX and PointInPolyY, are created in the standard vector polygon attributes table (POLYSTATS). These two fields provide the necessary XY coordinates for pin mapping. In Spatial Data Display, you can use the PointInPolyX and PointInPolyY fields as XY coordinates to add a pinmap layer. In the illustration above, the pinmap layer, which is visible at certain zoom levels, compares the different sale prices and 2004 tax assessment values associated with each property. More information on pin mapping can be found in the *Pin Mapping* tutorial booklet.

• **Create point vector object:** TNTmips also lets you create vector points from vector polygons using the PointInPolyX and PointInPolyY fields. You can simply save PointInPolyX and PointInPolyY fields to create point data in CSV text format. Then you can import this CSV file as a vector point object using the Import process. This process creates a new point vector object. You can also create vector point elements from a database pinmap with the copy/paste functions of the Spatial Data Editor. You can copy elements from the pinmap layer and paste them into a new or an existing vector object.

PointinPolyX and PointinPolyY fields are created in the POLYSTATS table.

Point vector object styled by theme is displayed over the land use layer.

The representation of each parcel as a point provides you the flexibility to use various display tools such as theme mapping. The polygon attributes of the parcel layer can be transferred to the point vector object using Geometric/Attributes/Transfer Attributes. In the illustration at the left, the assessed value of each property is represented as point data, classified into five categories, and displayed over a land use vector layer.