# Share City-Wide Centimeter Resolution Imagemaps

High-resolution image and terrain coverage is now available from a variety of sources. Aircraft systems provide this geodata with resolutions for US cities as detailed as 30 centimeters (~1 foot) or even down to 7.5 to 10 cm (3 to 4 inches). Submeter image coverage of this type for many US cities is available for free download from the USGS National Map Seamless Server (http://seamless.usgs.gov). Some cities acquire annual centimeter-resolution imagery for use as base maps for planning, mapping, and monitoring changes in urban infrastructure and other projects that require high spatial detail. An Australian image acquisition company is providing public access to 7.5 cm color imagery updated monthly for major Australian cities including Melbourne, Perth, Adelaide, Brisbane, and others (try it at http://www.nearmap.com).

Business and private uses of Google and Microsoft high-resolution imagery are already well-established. However, license restrictions, date of acquisition, extent of coverage, suitable resolution, and other constraints are under their control and set to optimize their advertising and other paid-for business applications.

> TNTmips creates standard web tilesets that can be viewed in Google Maps and Bing Maps 2D and 3D using Internet Explorer, Firefox, Safari, Opera, and Chrome. It also creates sample HTML files allowing you to immediately view a web tileset from your local drive or from your web site in any of these browsers.

Imagery with ground resolution measured in centimeters and acquired with public funds can be widely shared for viewing in the familiar Google Maps and Bing Maps 2D and 3D geoviewers when the imagery is published as a single standard web tileset created in TNTmips. In this fashion each and every basemap image coverage of a city can be easily made available via the Internet and shared for city management, business activities, and use by private citizens. It can be used as a current high-detail spatial reference for city personnel responsible for planning, property assessment, policing, fire services, safety, building permits, contract approval, environmental, waste disposal, water and sewage, road mainte-nance, city owned property, surveying, information services, GIS support, community and industrial development, and parks and recreation management. Private organizations can use it for project impact studies. It can be used as a basic for collecting spatially-oriented public input to a proposed project, vote, tax assessment, and many other issues that require spatial awareness.

(over)
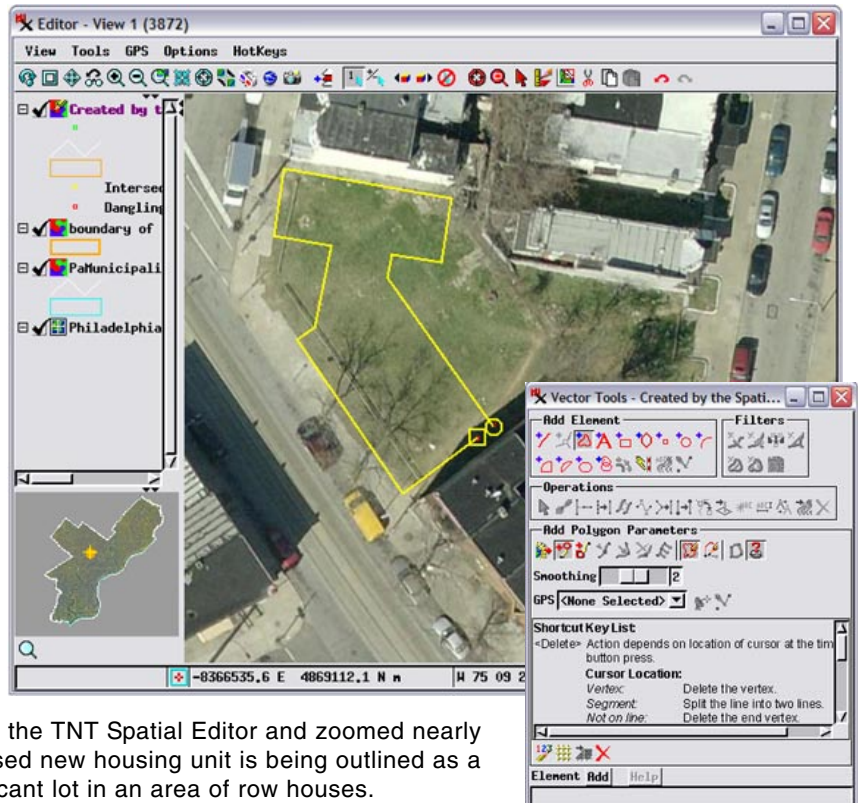
Above, a TNT display of a tileset prepared in TNTmips from 10-centimeter (4 inch) resolution orthoimagery of the city of Philadelphia, Pennsyl-vania and published at the URL shown below. The orange polygon outlines a 180-acre redevel-opment area in north Philadelphia. At right, this same internet tileset is used as a reference layer in the TNT Spatial Editor and zoomed nearly to its maximum resolution. The footprint of a proposed new housing unit is being outlined as a vector polygon within the confines of a currently-vacant lot in an area of row houses.

http://www.microimages.com/geodata/742_0/Philadelphia 2008 GM/Philadelphia 2008 GM.tsd

TNTmips can transform your collection of orthophotos, maps, or terrain of 10 GB, 100 GB, or 1 TB into a standard web tileset for immediate viewing in Google Maps and Bing Maps 2D and 3D. A tileset can also be produced for immediate 3D viewing of these same materials in the browser version of Google Earth. This Google Earth tileset is portable and can also be used in field situations where there is no connection to the Internet. A tileset can also be prepared for similar use in 3D in NASA's World Wind open source viewer. Any of these tilesets can be added to your web site using the sample HTML/JavaScript client automatically produced with the tileset or using your custom HTML page. TNTmips also provides a Geomashup process that you can use to design a custom combination of one of more local and remote tilesets, base and overlay layers from Google or Bing Maps, and standard or custom tools and controls (see the Technical Guide entitled *Geomedia Publishing: Introduction to Geomashups*.

When your custom tileset has been published on the Internet it is available for use not only in the Google and Microsoft geoviewers, but also in any software that can utilize its standard web tileset structure. Your programs can directly access a custom local or Internet tileset's contents using a small open-source TileSet Definition (TSD) file or open-source Tile Map Service (TMS) file. Geodata read from a tileset through a TSD or TMS link file is georeferenced and can be displayed and interactively used by a local program, just as any other local reference layer in any other format. For example, a tileset layer can be directly interpreted in MicroImages' commercial TNTmips product to create or update point, line, or polygon features and their attributes or even saved locally in some other geodata format.
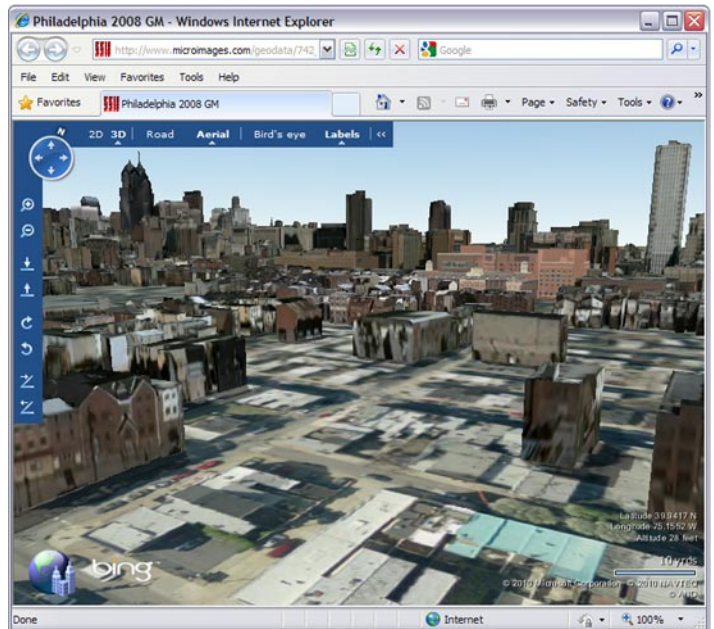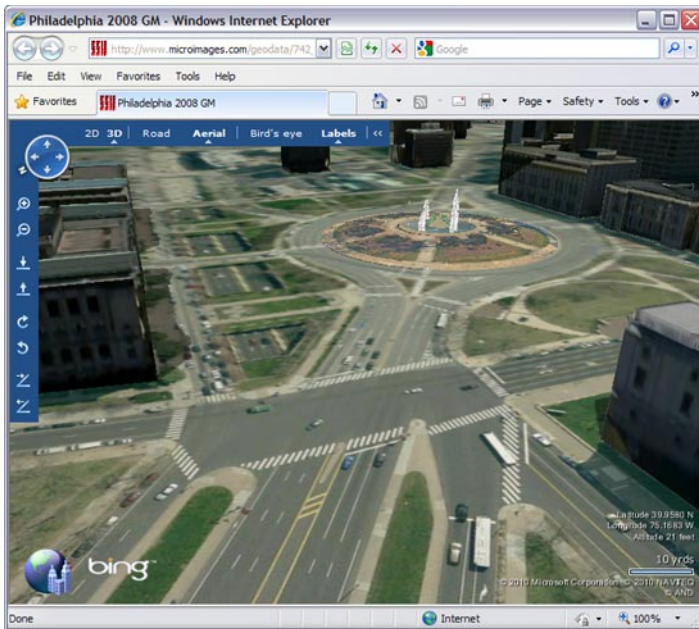
The same 10-centimeter imagemap tileset of Philadelphia created in TNTmips and illustrated on the reverse is shown here in two 3D perspective views in the Bing Maps 3D geobrowser. Bing Maps 3D includes many textured 3D buildings for this and other cities, enhancing the visual experience of viewing your detailed orthoimagery in 3D. You can view this tileset at the link shown below:

http://www.microimages.com/geodata/742_0/Philadelphia%202008%20GM/Philadelphia%202008%20GM_BingMaps.html