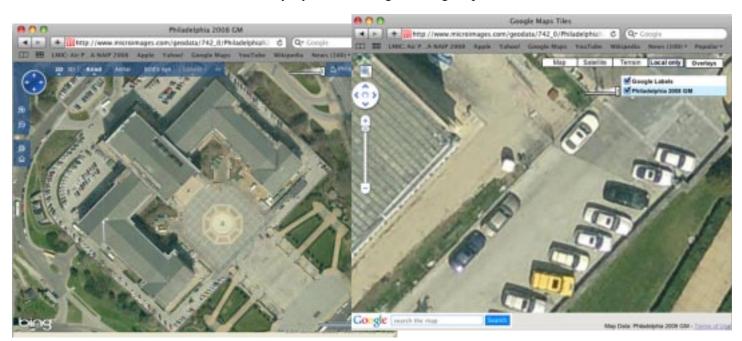# Provide Access to Public Imagery

High-resolution image and terrain coverage is now available from a variety of sources. Aircraft systems routinely 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). 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). Many cities are now acquiring such imagery annually as the basis for planning, mapping, and monitoring changes in urban infrastructure and other projects that require high spatial detail.

Public funds are often used to acquire these images and terrain coverage. Public access to these materials for private activities helps develop support for their continued acquisition and improvement. Wide-scale access to high-resolution local imagery has been made possible by the Google and Microsoft mapping web sites and associated desktop applications. While the public is very familiar with using their mapping interfaces, the image and map coverage they provide is of their choice and supports their commercial objectives. Forunately, Google and Microsoft have provided mechanisms (Application Programming Interfaces, or APIs) that permit the public to view other high-resolution image and terrain coverage of any global area using these familiar interfaces.

At resolutions measured in centimeters, the annual coverage of even a smaller city can require as much hard drive space as orthoimage coverage of an entire state or province at 1 meter resolution. In order to view large custom image and map layers using the Google and Microsoft mapping interfaces, the custom imagery must conform to the tileset structure documented by these vendors. These structures dictate that the imagery is divided into millions of small tile files at defined scales and formats, in a specified coordinate reference system, and in a rigorously-defined directory and filename structure.

TNTmips can transform a collection of orthophotos or a terrain of 10 GB, 100 GB, or 1 TB into the tileset structure required by these popular web-based geoviewers (e.g. Google Maps, Google Earth, or Bing Maps) or related desktop applications (e.g. Google Earth or NASA World Wind). A custom web tileset tileset of an entire city's centimeter-range image coverage can be prepared to use as a single layer in any of these viewers. Once the tileset is prepared, it can be added to your web site using the sample HTML/JavaScript client automatically produced with the tileset by TNTmips or using your custom HTML page. TNTmips also provides a Geomashup process that you can use to design a custom combination of one or more local or remote custom tilesets, base and overlay layers from Google or Bing Maps, and standard or custom tools and controls.

A standard web tileset prepared in TNTmips from 10-centimeter (4 inch) resolution orthoimagery of the entire city of Philadelphia, Pennsylvania is displayed in Bing Maps (left) and Google Maps (right). The left view is zoomed out from the maximum zoom to show the entire Philadelphia Museum of Art. The right view shows the southeast edge of the building and adjacent parking at the maximum zoom level (Google Maps zoom level 21).