



# Mapping Solutions Under \$500

By Michael E. Cline

Recently, I was invited to a party at a restaurant I'd never been to before. I had the address, but wasn't quite sure of its exact location. Like many people, I sat down at my computer, pulled up MapQuest, and entered the address. Instantly, a map appeared on my screen showing the location of the restaurant. Adding my office address, I quickly navigated to a pinpoint map of my current location, the restaurant's location, and a route map showing how to travel from my office to the party.

Amazingly, digital maps have become an important part of our daily lives. You can thank years of government investment in digital cartography and geographically referenced

data, which have resulted in the development of something called the Geographic Information Systems (GIS). For organizations dependent upon lots of geographic analysis, GIS bears a high price tag—tens of thousands of dollars in software, data acquisition, and personnel costs. Luckily, some software vendors recognized that everyone uses maps in some way and that many organizations occasionally need to analyze data spatially. In response, these organizations have created mapping software you can easily incorporate into day-to-day operations with a minimal expenditure.

Three different vendors sell mapping products with purchase prices of less than \$500: ESRI (BusinessMAP 3.5),

Microsoft (MapPoint 2004), and Caliper (Maptitude 4.7). The first two products are designed for simple visualization and map creation, while the latter offers additional analytical tools that can be used for in-depth geographical analysis. GIS applications for business analysis include estimating trade area demographics for retail stores, uncovering target neighborhoods for marketing, analyzing prospective business locations, creating sales territories, and routing deliveries. As an information professional, knowing how you wish to incorporate maps and geographic analysis into your organization will help you determine the right software to purchase. Mapping software can add another degree of relevance to your resource toolkit.

## BRINGING GIS TO THE PARTY

GIS software allows users to store, analyze, and visualize data spatially. GIS software provides more than just static maps; the software adds spatially referenced data that can be layered on top of each other to understand geographic relationships—much like the body atlas found in the old *Encyclopedia Britannica*. The data can include layers of single site locations (points), layers of boundary lines or building outlines (vector lines), and satellite imagery or aerial photography (raster data). Differences in how much can be overlain and analyzed divides mapping software into two major classes—a more entry-level “visualization” type product, and an advanced analytical product. Some consider the first class of software products as mere desktop mapping, while the latter would officially be recognized as GIS.

For novices who only need to provide an occasional street map, pinpoint locations on a map, or visualize a single demographic, desktop mapping products BusinessMAP 3.5 or MapPoint 2004 will do the trick. Both are relatively easy to learn and allow you to incorporate your own data, create reports in Microsoft Excel, and drag and drop maps into word-processing documents.

Because sales and marketing is one of the major markets for mapping, the analytical tools include sales territory mapping, travel route planning, and graphing of demographic variables.

Both software vendors have incorporated a plethora of demographic and consumer lifestyle information with the option of purchasing additional data based upon the user’s needs. The latest versions of these two products also allow for the inclusion of aerial photographs and global positioning system (GPS) readings. In addition, ESRI has included the D&B data file of 16 million businesses within BusinessMAP. The amount of data included and the functionality of the mapping applications are well worth the cost of these two programs: \$349.95 for ESRI’s BusinessMAP 3.5 and \$299 for Microsoft’s MapPoint 2004.

## MICROSOFT MAPS FOR THE MASSES

Four years ago, Microsoft entered the mapping software world with its mass-market product called MapPoint 2002. At \$299, Microsoft certainly is making mapping and demographic information accessible to the average user. Its latest version, MapPoint 2004 improves upon the earlier product by adding additional functions and updating the included data. Microsoft worked hard early on to create a software product that can produce maps that look like they came out of the *Rand McNally Atlas*. These quality maps enhance the presentation. However, if you have a desire to customize labels and features, you are out of luck.

Like BusinessMAP 3.5, MapPoint 2004 includes many demographic and consumer expenditure data. Applied Geographic Solutions and Simmons Market Research Bureau supply over 200 demographic and consumer profile variables. From the Canadian government comes Canadian demographic data from its 1996 and 2001 Census, as well as projections for 2005.

MapPoint’s strengths include its relative ease of use, the demographic and consumer-related data included, the route planner, the publication quality map formats, and its low price. Unfortunately, it also comes with many limitations. Most of the file formats supported by MapPoint are of the Microsoft genre. Unlike other Mapping programs, you cannot import geographic files from other file formats. This limits your ability to add additional spatial data. In addition, although you can easily export one demographic variable from MapPoint 2004 to Microsoft Excel, it would be nice to export more.

Surprisingly, MapPoint 2004 does not incorporate Excel or Word templates for reporting of the demographic variables. MapPoint 2004’s help file seems limited and, although it provides a link to the data providers, I would prefer to have additional background methodology and explanations for many of the data variables so you don’t make erroneous conclusions. Still, MapPoint is a useful entry-level tool for those who wish to use maps sparingly without a long learning curve.

## ESRI MAPS FOR BUSINESS

ESRI has the largest market share of the GIS market, with many heavy users utilizing some version of ESRI’s flagship products ArcView and ArcInfo. The latest version of BusinessMAP includes some functions borrowed from these two products, allowing end-user queries to determine what is near a location, design territories based upon user-defined scenarios, and map database or spreadsheet data. Data formats supported include those created by contact managers (ACT!, Outlook, and GoldMine), spreadsheets (Excel and Lotus), and databases (Access and Paradox). Data in Excel, GoldMine, Outlook, and ACT! can be linked within Business-MAP 3.5. In addition, ESRI has enabled importation of

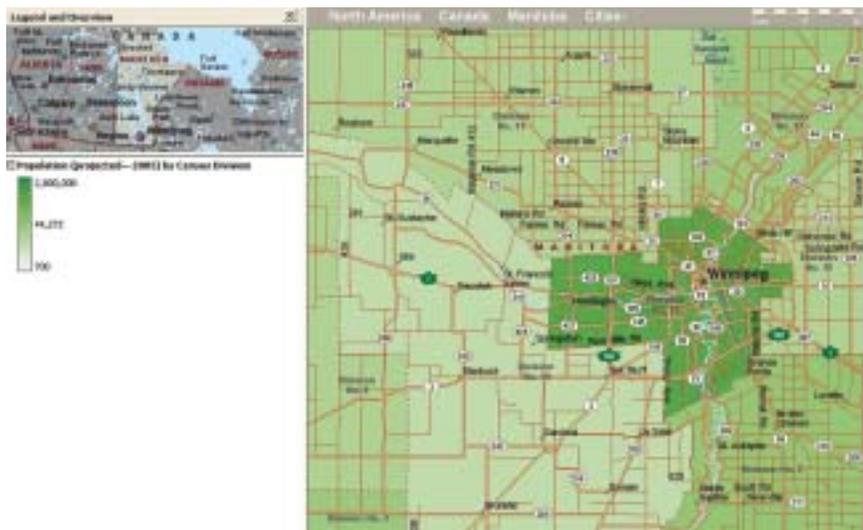


Figure 1: MapPoint 2004 showing 2005 population projection for Winnipeg, Canada



point in order to estimate the demographics surrounding a location. Other advanced features include 3-D mapping, terrain analysis, geographic merging, and overlay. In addition, you can copy other geographic files by drawing on the screen or importing GPS data.

If there is a weakness in Maptitude 4.7 GIS, it is its lack of current demographic estimates and items such as consumer expenditures. However, it does include the hundreds of demographic, social, housing, and economic data from the 2000 U.S. Census down to the Census Tract level. More important, it has the capability to import geographic and database files from 37 different file formats, including cartographic files created by MapInfo and ArcView.

For those who need additional demographic data, Caliper sells geographic customized files down to the Census Block level, including special files created for use in a variety of government-related programs. These files include information for such things as the Home Mortgage Disclosure Act (HMDA), low and moderate-income areas, and legislative boundary files. If you need to map information in areas other than the U.S., worldwide geographic files such as airport locations, boundaries, and major roads are included. Caliper has also customized Maptitude 4.7 for the U.K., adding demographic and other statistical data from the U.K. government.

Though many of the analytical capabilities of Maptitude 4.7 may require additional training and a learning curve, some of its functions are accessible right out of the box. Caliper includes a "Map Librarian" that guides you through the creation of simple maps of various demographic variables. This makes it easier for novices to map simple demographic variables. Maptitude 4.7 includes a layout file format for final print production of your maps. These can be output to a wide variety of paper sizes. In addition, you can save maps to a graphic file format such as a Windows bitmap or a JPEG-compressed image so that you can import the map into word-processing documents or place the static map on the World Wide Web.

### INFO PROS BRING MORE TO THE PARTY

These three software programs provide a way to extend the capabilities of information professionals. A novice, casual user can easily learn all three. Information professionals must decide how they intend to incorporate maps and geographic analysis into their services in order to choose the appropriate software program.

While I highly recommend Caliper GIS for its ease of use and extended analytical capabilities, MapPoint 2004 or BusinessMAP 3.5 might be more desirable for those information professionals who only intend to create

visual depictions of demographic and business data, particularly if they wish to include recent demographic estimates and consumer characteristic data without additional data acquisition costs. Either way, you cannot go wrong with these software products. The price is certainly right.

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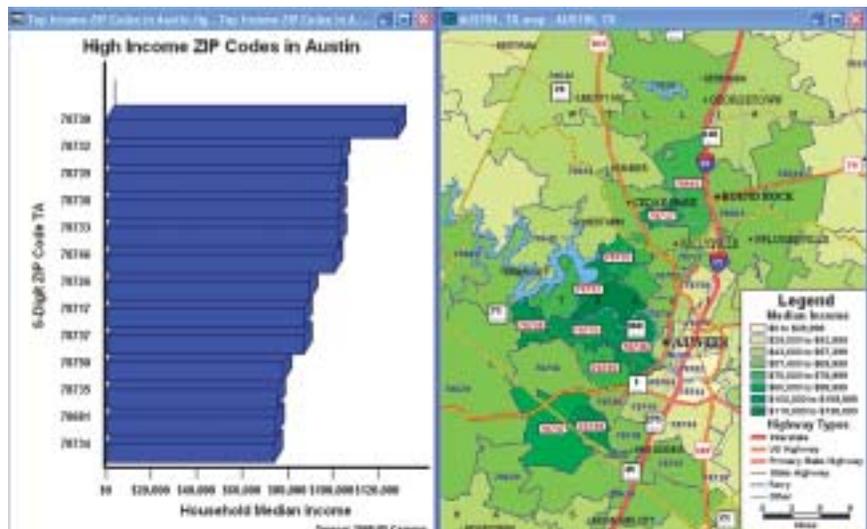


Figure 3: Maptitude 4.7 showing median household income by ZIP code in Austin, Texas

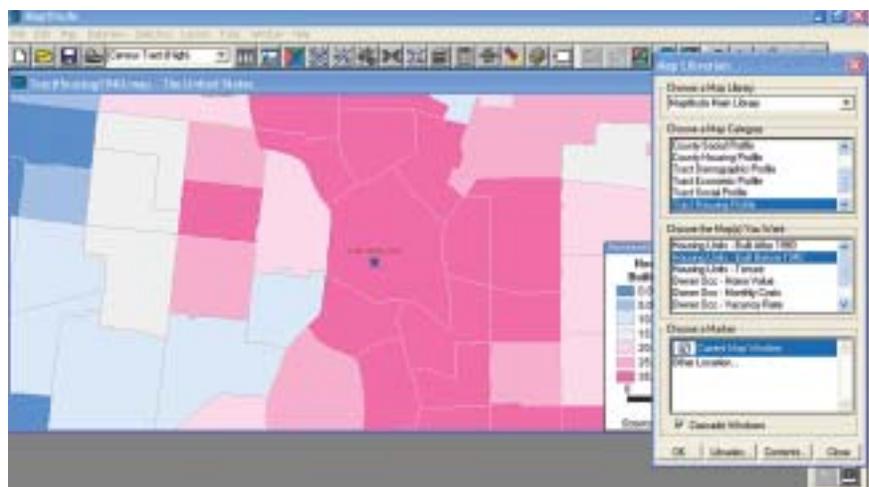


Figure 4: Maptitude 4.7's Map Librarian