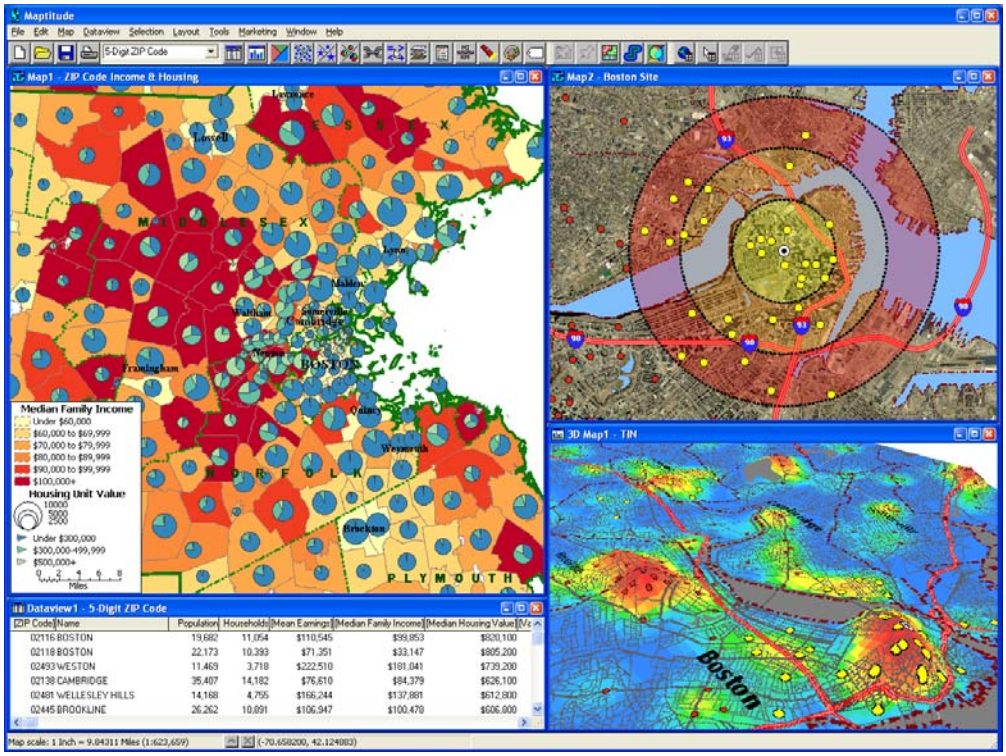
Caliper®

# MAPTITUDE®

## Geographic Information System for Windows

**The Intelligent Mapping Solution for Business, Government, and Education.**




## Increase Your Maptitude™

Maptitude® Geographic Information System for Windows is the intelligent mapping solution for business, government, and education. Maptitude is a powerful combination of software and geographic data that provides everything you need to realize the benefits of desktop mapping and spatial analysis with a single, easy-to-use package. With Maptitude you can:

- Create beautiful, informative map displays
- Enhance reports and presentations with maps that clearly illustrate your message
- Find geographic patterns that cannot be seen in database tables and spreadsheets
- Answer geographic questions that impact your operations
- Share geographic data with your workgroup, department, or organization

Maptitude has the richest feature set and highest performance of any PC-based mapping system. Maptitude offers much more than the limited functions of desktop mapping products, and provides many new and enhanced features that make it easier for you to create and edit maps, analyze geographic data, and connect to corporate data resources.

Maptitude gives you the tools, maps, and U.S. Census demographic data you need, plus special functions to allow you to tie in the data you use every day in your work. Maptitude provides ways for you to use the maps you create to analyze and understand how geography affects you and your business. With Maptitude you can visualize data in new and different ways, unearth geographic patterns in your data, and convey that information in a straightforward manner.

### SOFTWARE FEATURES

- MapWizard® Thematic Mapping Technology
- Map Editing and Customization
- Integrated Maps and Charts
- Statistics
- Shortest and Fastest Route
- Pin Mapping by Address, ZIP Code, and More
- OLE Support
- ODBC Links to DBMS
- Direct Support for Oracle Tables, ESRI Shapefiles, and MapInfo TAB files
- GPS Interface
- Surface Analysis and 3-D Mapping Tools
- Map Librarian
- Map Locator
- Feature Selection/ Geographic Queries
- SPOTView, ECW, Orthophoto, GeoTIFF, and MrSID Image Support

### DATA INCLUDED

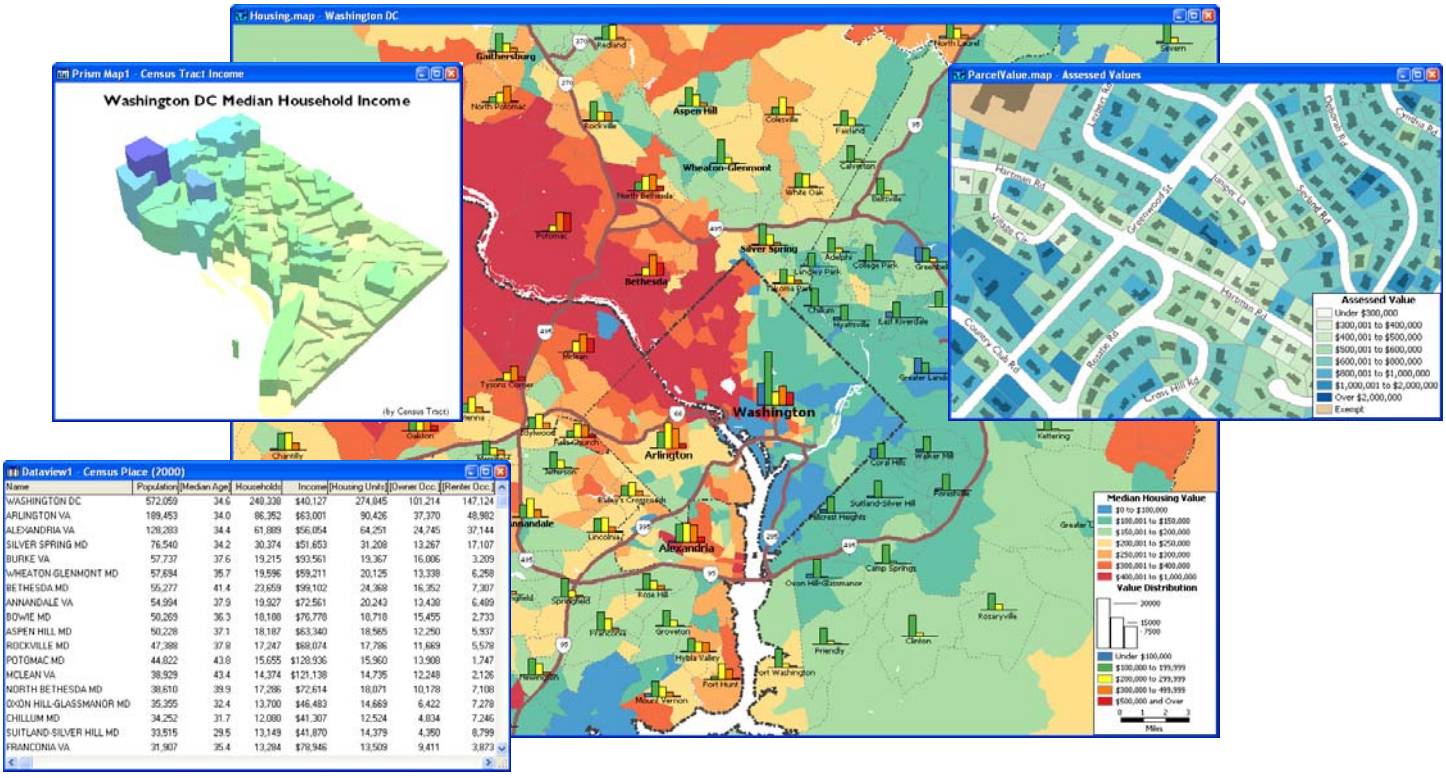
Maptitude includes vast amounts of data at no extra cost.

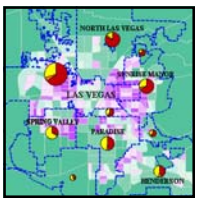
- U.S. Streets
- Cities and Towns
- States and Counties
- Census Tracts
- ZIP Codes and ZIP Code Tabulation Areas (ZCTAs)
- MSAs and CMSAs
- Highways
- Water Areas and Rivers
- Landmarks
- Detailed U.S. Census Demographic Data
- Worldwide Data

MAPTITUDE
Geographic Information System for Windows

# The Easiest Way to Make Maps

## Quickly create attractive, informative, and insightful maps



**Map Creation:** Maptitude is the best software for making maps. Maptitude brings data to life with maps that impress and inform. Answer a few simple questions and Create-a-Map Wizard™ makes a map at any scale from all the countries of the world to streets around a U.S. address, landmark, or intersection.

Maptitude provides astonishing flexibility and power so you can enhance and customize maps in numerous ways. With a few clicks of the mouse, MapWizard® automatic mapping technology helps you create color and pattern maps, dot-density maps, scaled-symbol maps, and maps with integrated pie or bar charts. You can choose from a wide selection of colors, patterns, and symbols to enhance your presentation, and use editing and drawing tools to customize maps to match your needs.

Maptitude also provides a map library that contains several categories of pre-designed maps. The Map Librarian lets you open one or more of these maps for a chosen location. In addition, you can create map libraries to organize your own maps.

**Tables:** Maptitude lets you see the data associated with map features in tabular form. Click on a feature to see information about it, or display data for an entire layer in a dataview. You can use dataviews to add and delete records, edit values, create formula fields that display calculated values, compute statistics, or zoom to features on a map. You can also tag features, such as customers, with the distance to, or the name of, the nearest feature in another map layer, such as stores.

**Output:** Page layout tools help you design and create professional presentations that combine the results of your analyses into a single powerful display. With OLE, you can copy and paste maps, charts, figures, and layouts into documents, spreadsheets, and presentation software. You can print your maps and layouts on any printer or plotter, or save them to vector or raster formats. You can also save your work as JPEG or PNG files for use on a web page.

### Mapping Features:

- Color, pattern, bar and pie chart, scaled-symbol, multivariate dot-density, contour, and 3D prism map thematic mapping
- Automatic and manual labels
- Saving, copying, and reusing theme and label settings
- 100s of point styles, line styles, and area fills
- Interstate, U.S. highway, all 50 state, and many international highway shields
- Freehand map annotation tools
- North arrows and scalebars
- Pie, bar, line, area, and scatter charts
- Formula fields and coded fields
- Metadata support
- Multi-page layouts

# Map Your Own Data

## Take a unified look at all of your data sources

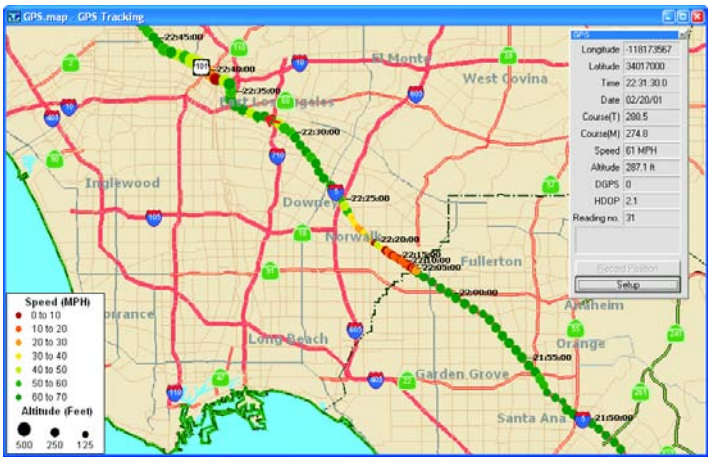
**Data Access:** Maptitude lets you create maps using your own data. Map data from dBASE files and text files directly, or access data from any ODBC compliant data source such as Access, Oracle, or SQL Server. You can also use raster images such as satellite or aerial photographs directly in your maps. These images can be used as a means of reference or in conjunction with the map editing tools to create or edit geographic files.

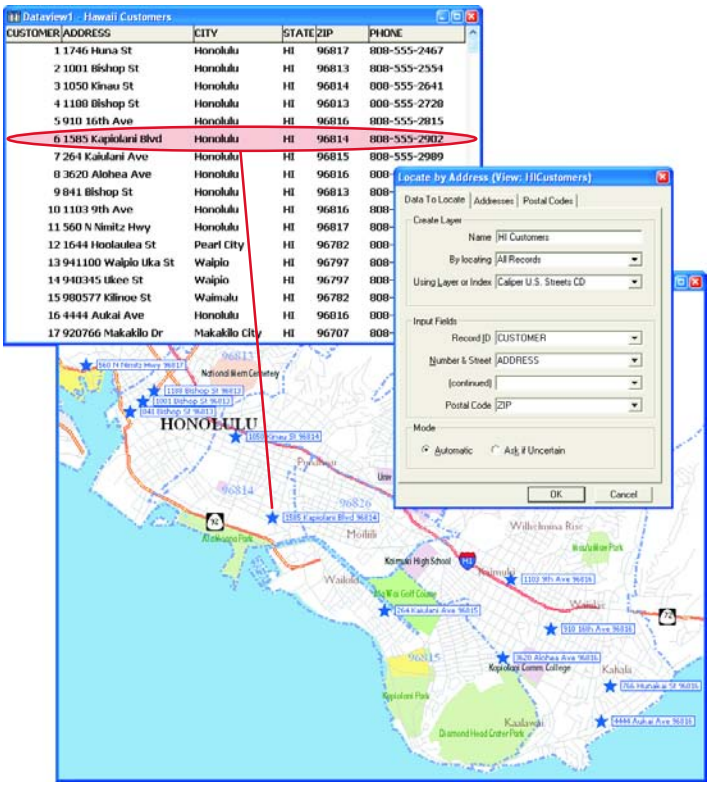
**Compatible with ArcView, MapInfo, and Oracle Spatial**

You can map ESRI Shapefiles, MapInfo TAB files, and Oracle Spatial tables directly. With the built-in translators, you can also import geographic data from other desktop mapping, GIS, and CAD packages, as well as many common file formats.

**GPS:** A built-in interface to Global Positioning System (GPS) devices lets you track and record your location, and build geographic databases as you work. With a GPS device and a laptop, users in the field can create accurate geographic files of public utilities, corporate facilities, geographic features, and more.

**Geocoding:** You can link your data to map features, automatically locate data on a map using street address or ZIP Code, or manually point to the correct location. In a few easy steps, you can use your own data to color code ZIP Codes by sales or display the locations of customers.


### Direct Data Access for:

- ESRI Shapefiles
- MapInfo TAB files
- Oracle Spatial tables
- dBASE/FoxPro/X-base
- ArcView Project and Legend files
- All ODBC sources (including Access, Btrieve, DB2, INFORMIX, INGRES, InterBase, NetWare SQL, Oracle, Paradox, PROGRESS, SQLBase, SQL Server, Sybase)
- Text and binary data files
- Raster files including SPOTView, TIFF, GeoTIFF, JPEG/World, Orthophoto, ECW, and MrSID

### Import/Export support for:

- ARC/INFO
- ArcView
- Atlas GIS
- AutoCAD DXF
- Defense Mapping VPF
- Digital Line Graph
- ETAK MapBase
- Excel
- Intergraph DGN
- MapInfo MIF/MID
- Ordnance Survey NTF
- TIGER/Line

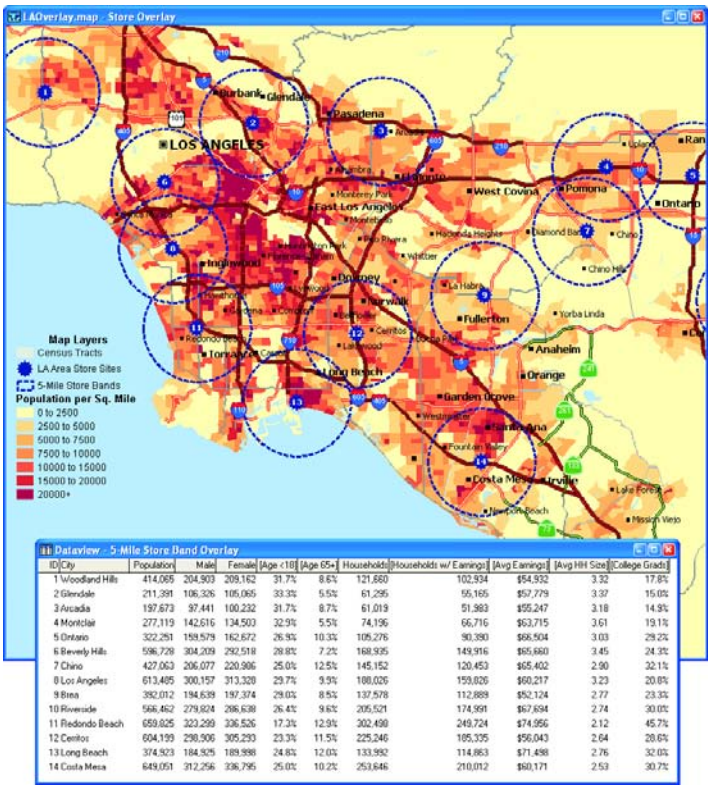
### Additional Export support for:

- Enhanced Metafile
- JPEG
- PNG
- Windows Bitmap
- dBASE
- Text and binary data files

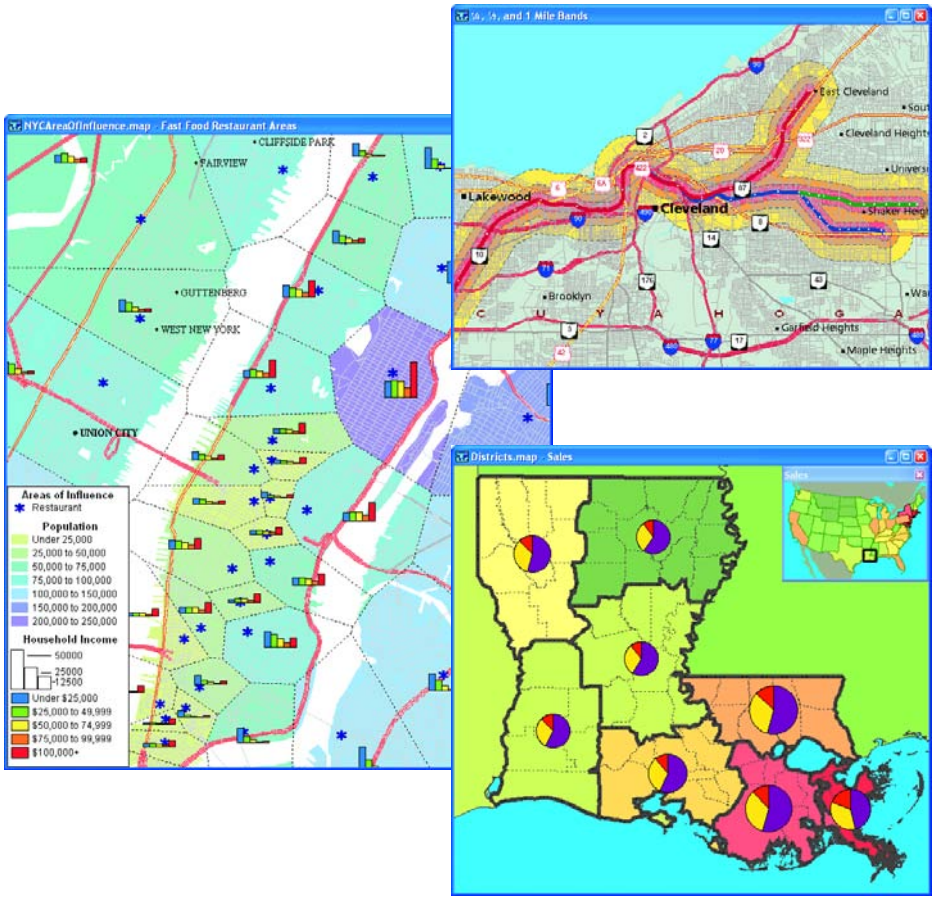
# Geographic Analysis Tools

## Unearth the trends and information hidden in your data

One of the best reasons to use a GIS is to unearth and analyze the geographic components of your data. You can create bands (buffers) around map features, create districts, define areas of influence, find shortest paths, create density grids, and much more. Maptitude also makes it easy to overlay and aggregate data and calculate statistics.



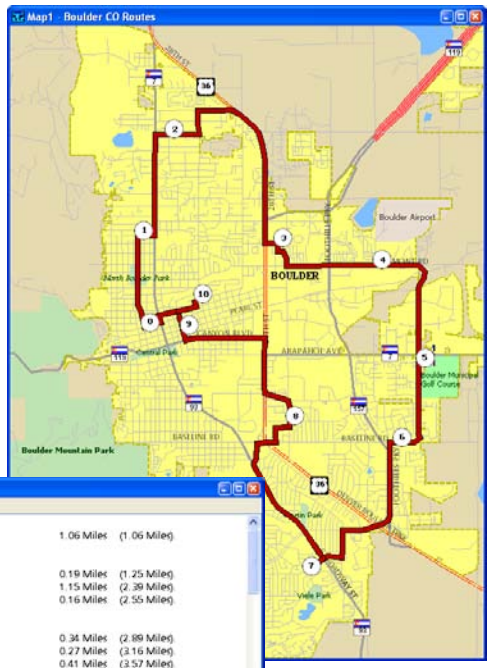

**Ask and Answer Geographic Questions:** Where are areas with the highest population density? How many people live within one, two, and three miles of this site? How many comparable properties are located in this neighborhood? What is the shortest route between delivery points? Maptitude answers these and many other types of questions. Maptitude lets you understand trends, evaluate sites, and define optimal routes. You can integrate census statistics with your own data to identify geographic characteristics that impact you and your operations. You will be amazed at how quickly you can enhance your decision making using this easy-to-use GIS tool.

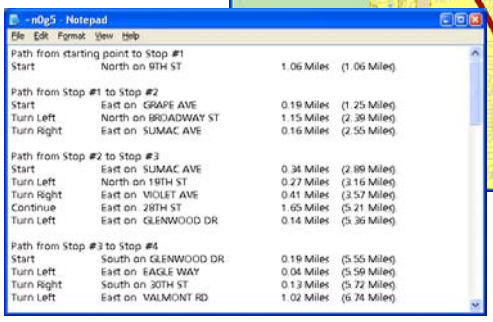



**Bands:** You can automatically create bands around any number of map features and then analyze the characteristics of those areas. Find out how many customers live within a certain distance of a store, compute the demographic characteristics around potential store sites, analyze the neighborhoods most affected by noise pollution from a highway, or determine accessibility to facilities.

**Districts:** Maptitude lets you join smaller areas into districts and compute the attributes for each one. For example, you can group ZIP Codes together to create sales territories, land parcels to create zoning districts, or city blocks to create school districts.

**Areas of Influence:** You can determine the areas closest to each of your facilities by building areas of influence, then estimate the attributes within each area to determine areas that are under- or over-served.

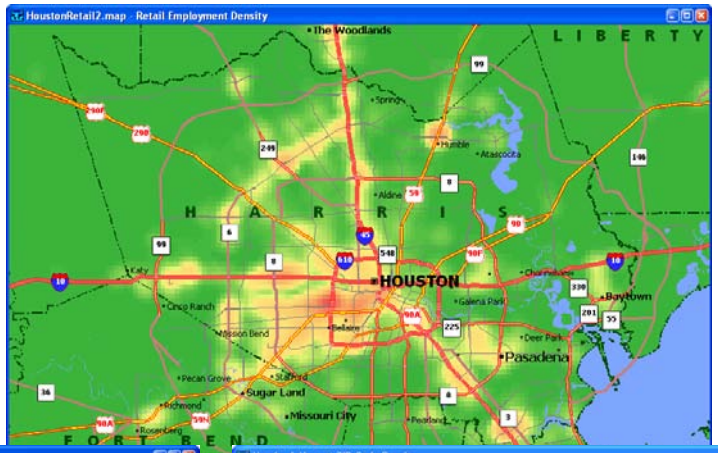


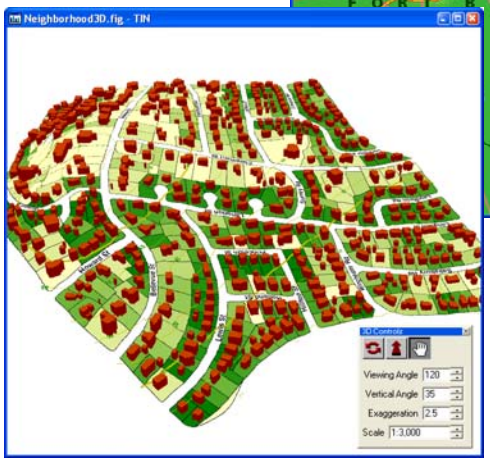

**Routes:** Maptitude identifies routes between points and generates driving directions. When a trip involves several stops, Maptitude can even help you decide the best order in which to visit them. Most importantly, Maptitude lets you decide what type of route you want – the shortest or fastest, or a route that satisfies certain restrictions you need to consider, based on the available data.

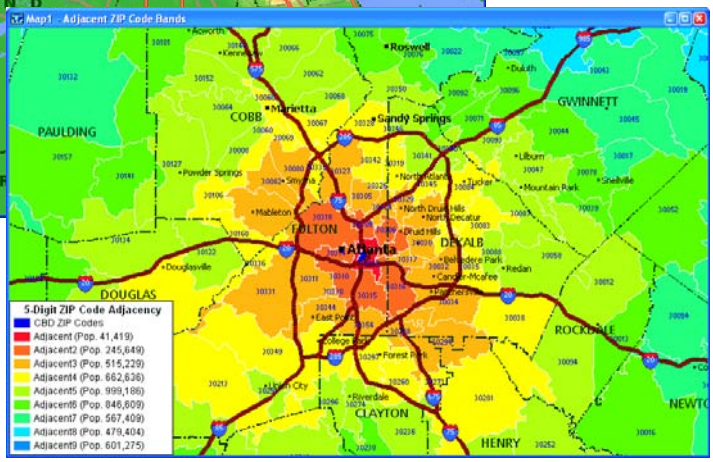
**Surface Analysis:** With Maptitude, you can analyze and display surfaces on a two-dimensional map or as a 3D map. You can create contour maps of elevations and determine the viewshed for any location, either at ground level or at a particular height. For example, you can find areas of weak service from a transmission tower. You can also create surfaces that represent data values, such as measures of air pollution or levels of radon gas, over a geographic region.

**Density Grids:** Maptitude lets you visualize point data by transforming the points into a regular grid. This makes it easy to identify customer concentrations or crime hot spots. In addition, the grid can be weighted based on a value you choose. For example, you could analyze the pattern of clients around a store and weight them by the cost of their purchases, or find all retail employers and weight them by the number of jobs.




**Adjacency Tools:** You can identify the neighbors of an area of interest and create bands of adjacent neighbors. Use these tools for topological querying, exploring market expansion, planning evacuations, or tracking disease outbreaks.




## Geographic Analysis Features:

- Measure areas and distances
- Create bands by size or by value
- Create districts
- Create areas of influence
- Aggregate and disaggregate attribute data
- Find best routes
- Create density grids
- Perform surface analysis including 3-D maps, contours, viewsheds, and shortest path over terrain
- Compute adjacency
- Locate facilities and determine service areas
- Create areas from line features or lines from area features
- Select features by pointing, radius, or polygon, or by condition, value, or location
- Use multiple named, savable selection sets with unique display settings
- Generate statistics (count, sum, mean, minimum, maximum, and standard deviation)

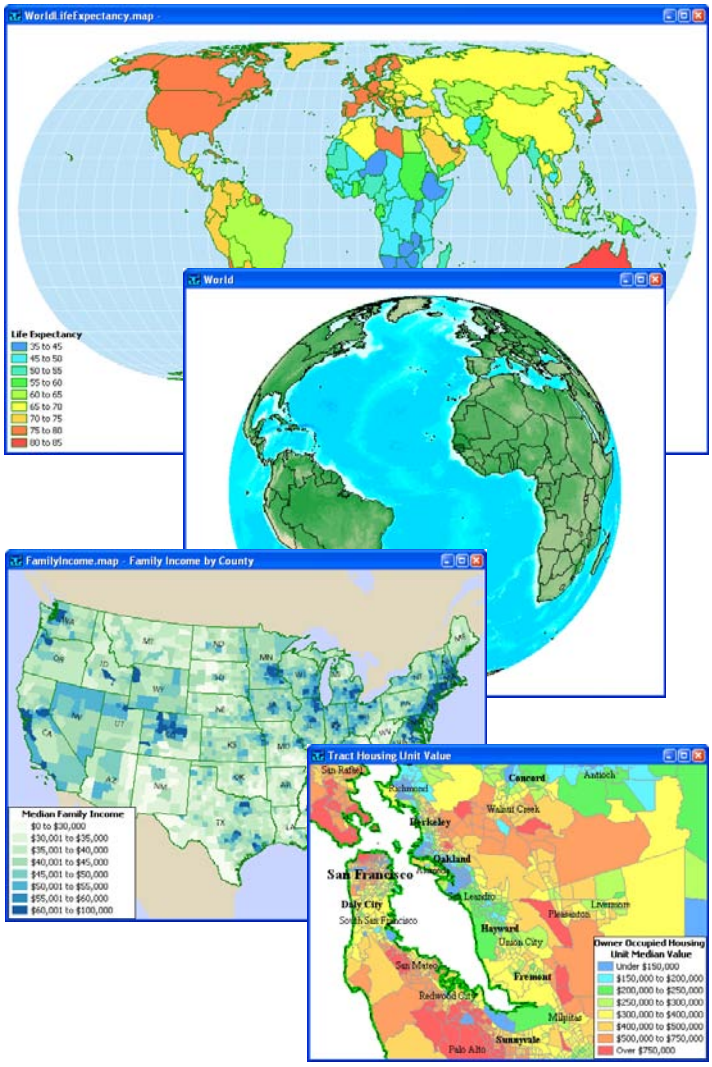
# A World of Data on Your Desktop

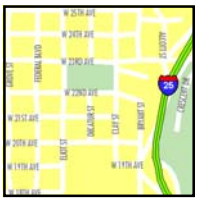
## Get started right away with the extensive data included with Maptitude

Maptitude provides extensive geographic and demographic data for the United States, and abundant geographic data from around the world so that you can get started as soon as you open the box. The U.S. Streets file includes address ranges and ZIP Codes so that you can locate your data on over 37 million street segments across the entire United States. Detailed 2000 Census demographic profiles that describe population, race, age, ancestry, education, employment, households, income, and housing let you create informative maps from the state level down to census tracts and ZCTAs. You can also aggregate the data to determine the characteristics of your own districts, trade areas, or markets. A world gazetteer lets you locate and map almost any place in the world, and digital elevation data let you create contour and 3D elevation maps for anywhere in the world.

You have complete control over what data to include in your maps and how data are presented. You can change the styles, colors, and labels. You can even set the layers and labels to display only at certain scales.

Data are provided in a compact geographic data format that reduces data storage requirements and reduces network traffic to make multi-user GIS operations more practical than ever before.





### STREETS AND HIGHWAYS

- Streets for the entire United States (and territories) with Address and ZIP Code ranges for geocoding
- Interstate Highways
- Highways including U.S., State, and County Highways and Ferry Routes
- Major roads with travel times and speed data

### NATIONWIDE BOUNDARY FILES WITH 2000 U.S. CENSUS DATA

- States
- Counties
- Metro/Micropolitan Statistical Areas (MSAs)
- Census Places (Cities)
- 3- and 5-Digit ZIP Code Tabulation Areas (ZCTAs)
- Census Tracts
- 2000 Census Demographic, Social, Economic, and Housing Profiles for States down to Tracts

### OTHER U.S. DATA:

- Cities and Towns
- Indian Reservations
- Landmark Points including airports, churches, hospitals, locales, parks, reservoirs, and schools
- Landmark Areas including state and national parks, cemeteries, golf courses, and airports
- Populated Places
- Railroads
- Rivers and Water Areas
- State Plane Coordinate Zones
- Time Zones
- ZIP Codes

### WORLD DATA:

- Country Boundaries
- Cities and Capitals
- Populated Places
- Place Gazetteer
- Airports, Highways, and Railroads
- Elevations and Contours
- Digital Elevation Models (DEMs)
- Rivers, Lakes, and Glaciers
- Provinces for Australia, Brazil, Canada, China, Colombia, Japan, Mexico, the United Kingdom, and most of Northern Europe

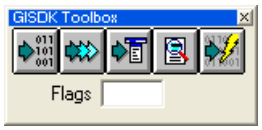
# Application Development Platform

## Leverage the power of Maptitude in your own applications

Maptitude includes the Geographic Information System Developer's Kit (GISDK™). GISDK gives you the tools that you need to create a wide variety of products for delivering mapping and geographic analysis capabilities to your customers. Almost 800 functions can be called from Caliper Script, a complete programming language for designing menus and dialog boxes (including toolbars and toolboxes) and for writing macros. The Caliper Script code is stored in resource files that you can edit with your favorite text editor. With GISDK you can:

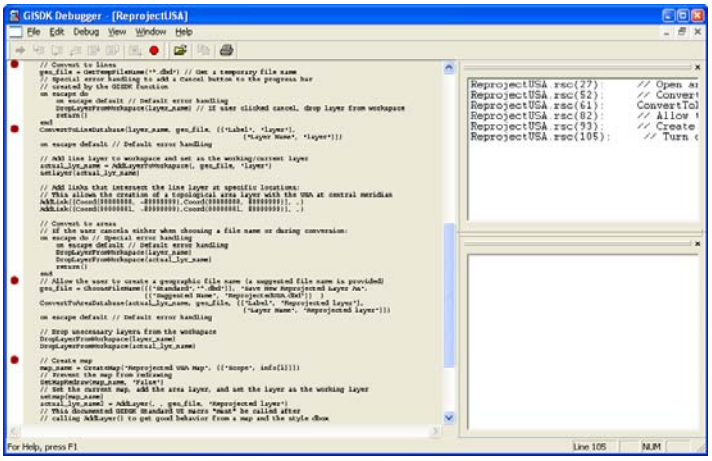
- Create add-ins that extend the standard interface to provide new capabilities or that automate repeated operations
- Build custom applications that focus the user on the capabilities needed for a particular purpose by extending or replacing the standard Maptitude interface
- Access Maptitude from .NET to integrate it into a .NET desktop application
- Access Maptitude as a COM Object to add maps or analysis functions to your own programs

GISDK contains both a debugger and a compiler.




**Add-Ins:** Add-ins are macros or dialog boxes that are launched within Maptitude. You can create add-ins to provide end-users with easier access to existing software functions; to add new capabilities to the GIS engine; or to create hooks to your own applications. Add-ins can be freely distributed to any Maptitude user without restriction.

The simplest add-ins are macros that run when they are selected by the user. A sophisticated add-in can display dialog boxes that let the user choose the settings or options to use when the macro is executed. The most flexible and powerful add-ins are custom toolboxes that provide users with push-button access to tools that you have programmed. These toolboxes look like the standard toolboxes used in all Windows applications.




**Custom Applications:** GISDK lets you create a mapping application program with a custom user interface to appeal to a particular audience. You design the menus, toolbars, toolboxes and dialog boxes, and program the application to respond to user actions in any way you want. You can even create applications that are dynamic and that adapt to the capabilities and authorization level of the user.

Custom applications are executed like other Windows programs. Add your own program icon to any program group and double-click to launch your application.

**Accessing Maptitude from .NET or as a COM Object:** GISDK allows you to call mapping functions and macros from another application, written in another programming language. The .NET classes included with Maptitude allow you to access the GISDK environment from a Windows desktop application (Windows Forms) written in any .NET language. GISDK also allows you to call GISDK functions and macros from another application using COM. Maptitude can provide map, data, and geographic analysis services when accessed as a COM Object. You write your application in a programming language that can make COM calls, and when you need map services you call the Maptitude object to supply those services. If, instead, what you need is a web server application, you should use Maptitude for the Web. Contact Caliper or visit our web site for more information.

**Maptitude applications**

- Banking
- Business
- Cartography
- Client Management
- Community Planning
- Crime Analysis
- Data Publishing
- Decision Support Systems
- Demographics
- Education
- Emergency Response
- Engineering
- Environmental Management
- Facilities Management
- Health Care
- Insurance Underwriting
- Land Use
- Law Enforcement
- Market Research
- Marketing
- Planning
- Public Health
- Public Safety
- Public Works
- Real Estate
- Redistricting
- Regulatory Compliance
- Retail Management
- Sales Analysis
- Site Selection
- Telecommunication
- Utilities

**System Requirements:**

- Pentium or similar personal computer
- CD-ROM
- 32MB RAM
- Microsoft Windows 98, Me, NT 4.0, 2000, or XP
- 120MB hard disk space for program files
- 1.5GB hard disk space for basic U.S. data/2.5GB for all geographic data

# Maptitude User Services

Caliper provides a comprehensive program of technical support, training, and consulting services to ensure the success of your Maptitude applications. Caliper offers hands-on training classes for Maptitude in classroom settings, or on-site at your location. Our training can be customized for your specific needs and user group.

Maptitude includes comprehensive documentation with background information, step-by-step instructions, and a series of hands-on tutorials that let you try out features. On-line help with tooltips and other on-screen visual cues also make Maptitude easy to learn and use.

Caliper offers a full range of GIS implementation services. Our GIS professionals will assist you in assessing data requirements, database strategy and design, database development, and analytical modeling. Caliper also provides custom application and turnkey system development services, including web site creation.

# About Caliper

Caliper Corporation is the technology leader in the development of PC-based GIS software applications. Tens of thousands of successful individuals and organizations around the world use Caliper GIS software products to enhance their operations. For more information on our complete range of GIS software products, data, and technical services, please visit our web site, WWW.CALIPER.COM.

**Also Available from Caliper:**

**Maptitude for the Web™** has all of the tools you need to create compelling and attractive maps, plus special capabilities for designing and running interactive map applications and location-based services on the World Wide Web using ASP.NET. For more information please visit WWW.CALIPER.COM/WEBMAPTITUDE.HTM.

**Maptitude® for Redistricting** is a special edition of Maptitude that includes everything you need to build and analyze redistricting plans. For more information please visit WWW.CALIPER.COM/REDISTRICTING.

**TransCAD®** is the first and only Geographic Information System (GIS) designed specifically for use by transportation professionals to store, display, manage, and analyze transportation data. TransCAD provides an integrated set of state-of-the-art methods for solving key analytical problems in transportation planning, management, and operations. TransCAD is used extensively for transportation database development and maintenance, demand forecasting, operations management, and vehicle routing and scheduling. For more information please visit WWW.CALIPER.COM/TRANSCAD.

**Data CDs** offer a large and expanding collection of geographic and demographic data, including:

- Latest ZIP Code Boundaries – An area database with 5-digit ZIP Codes for all 50 States and the District of Columbia; This Data CD is updated quarterly
- Census Blocks with 2000 Census profile data from SF 1
- Census Block Groups with 2000 Census profile data from SF 1 and SF 3
- County Subdivisions with 2000 Census profile data from SF 1 and SF 3
- Congressional Districts
- State Legislative Districts
- SF 1 Data CD with complete SF 1 data
- SF 3 Data CD or DVD with complete SF 3 data
- Transportation Data CD – Includes over 30 geographic files such as airports, airport runways, ports, transportation analysis zones, transit lines, and Amtrak stations
- Renewal Communities/Empowerment Zones/Enterprise Communities

For more information on all of the available Data CDs, please visit www.caliper.com/datacds

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