Caliper®

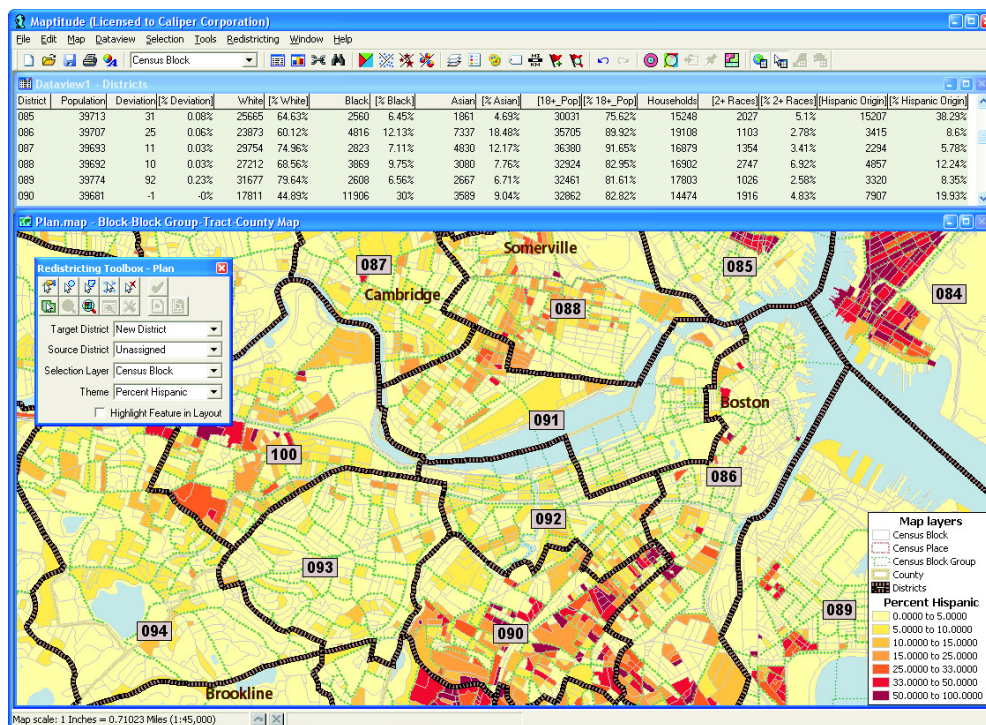# Maptitude®
For Redistricting

Maptitude for Redistricting Key Features:

- Create districts using any level of geography
- Compute control field totals and deviations
- Select any number of summary data fields and compute totals and percents
- Display the plan as district boundaries or a thematic map
- Display the plan statistics in a scrollable data window
- Includes over 35 standard reports: add your own and customize ours
- Export the plan to an equivalency file in industry-standard file formats
- Import plans from other GIS software
- Merge sub-plans
- Compute measures of compactness
- Verify completeness and district contiguity, and zoom to problem areas
- Update historic election results to new political boundaries
- Create single-district map layouts and map books
- Save plans in an Internet-compatible format
- Complete support for Google Maps and Google Earth
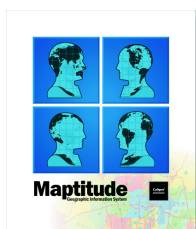- Includes all TIGER geographic layers with PL94-171 population and race data attached

Maptitude for Redistricting has defined the redistricting software market since its introduction in 1997. Designed with the help of redistricting professionals from many of the state legislatures and political parties, Maptitude for Redistricting works the way you work, has the features you've requested, is easy to learn and use, and is 100 percent reliable. No wonder it was used by a majority of the state legislatures during the 2000 redistricting cycle.

We're ready for 2010... Are you?

We have continued to improve Maptitude for Redistricting each year, and this new version represents a major leap into the next redistricting cycle with new features, the latest Census geography and data, one-button conversion of your existing plans to the latest TIGER geography, new and enhanced reports, an updated manual and context-sensitive Help, a state-of-the-art interface, open access to industry-standard file formats, interoperability with Google Maps and Google Earth, network options, web solutions, and more. Whether you are an existing client or new to Maptitude for Redistricting, you will thoroughly enjoy this new version of the software as you prepare for 2010.

Maptitude for Redistricting is a special edition of Caliper Corporation's Maptitude Geographic Information System software. Maptitude is a full-featured GIS that has set new standards for performance and value. It provides a complete set of desktop mapping and spatial analysis functions, as well as nationwide geographic data sets including streets with address information, and states, counties, census tracts, and other census boundaries with over 600 demographic variables.

Maptitude
Geographic Information System

Includes a Data CD customized for your jurisdiction that contains all of the geographic layers from TIGER with PL94-171 population and race data attached:

- Census blocks
- Census block groups
- Census tracts
- Upper and lower chamber state legislative districts
- Congressional districts
- State boundary
- County boundaries
- Incorporated place boundaries
- Minor Civil Division (MCD) boundaries
- Elementary, secondary, and unified school district boundaries
- Indian reservations
- Voting districts
- Point and area landmarks
- Water landmarks
- Utility lines
- Railroads
- Street segments
- All line features from Census TIGER/ Line® files

The Maptitude for Redistricting **Plan Manager** organizes plans on your computer or across a network. Create any number of plan types (e.g., congressional, state house, senate, school district), and save them as Plan Templates. To create a plan, simply choose a template or an existing plan and enter a new name. Organize plans in libraries by plan type, user, security access, etc. Locate, copy, change settings, and password-protect plans. Group similar plans into plan sets and define report sets for batch printing.

Maptitude for Redistricting includes all of the features and data in Maptitude plus everything you need to build and analyze redistricting plans.

The custom menu system and redistricting toolbox let you:

- **Create a new plan** from a map, a template, or an existing plan. You only have to enter the settings once. From then on, any user can create a new plan by picking the appropriate template or existing plan.

- **Import and merge plans** created by Maptitude for Redistricting or other redistricting software. You can also automatically convert a plan based on a previous version of TIGER geography to a plan using the latest version of TIGER geography. There is no need to export the old plan to an equivalency file and then import the equivalency file into the new plan. This makes it very easy to update your old plans to the most recent and most detailed Census geography.
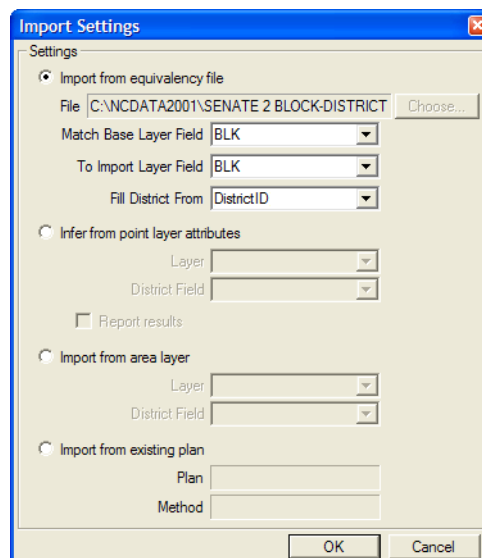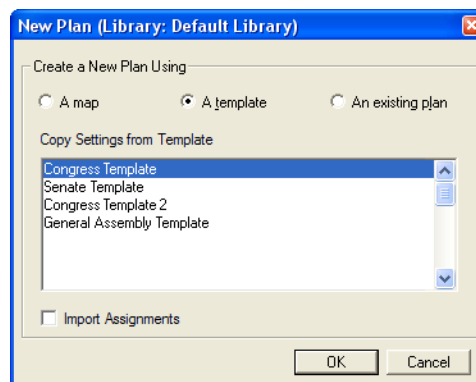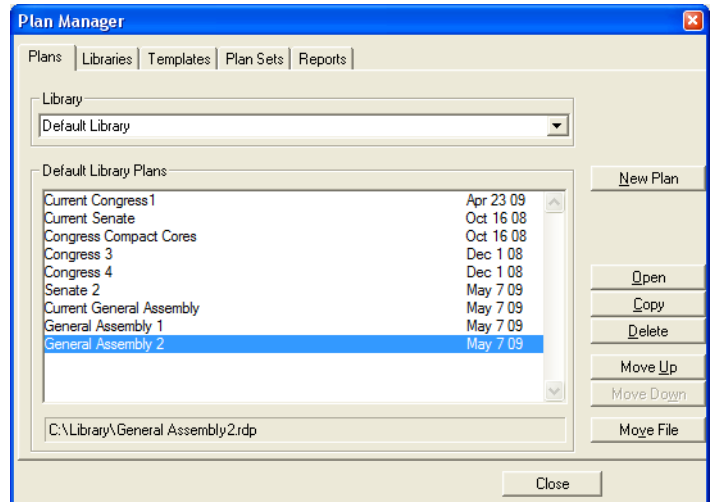
- **Designate the control field**, number of districts, ideal value, and summary fields, and set other plan properties including plan type, creation date, password protection, and backup strategy.

- **Include some or all race categories** and actual and estimated data in the same plan; one-button toggle between field sets lets you display only the data of interest.

- **Add areas to a target district** using feature selection tools. Select by pointing, by dragging a circle, by lassoing, and by attribute values. Select features in any geographic layer, such as census block, voting district, county, town, or school district. Limit the selection to unassigned areas, one district, a selection set, or the entire jurisdiction. As you add areas to a district, the district boundaries are redrawn, and the control and summary fields are updated to reflect changes to the current plan.

- **Easily manage districts:** rename districts, handle multi-member districts, assign both an ID and a long name to districts, lock districts, and mark them completed.
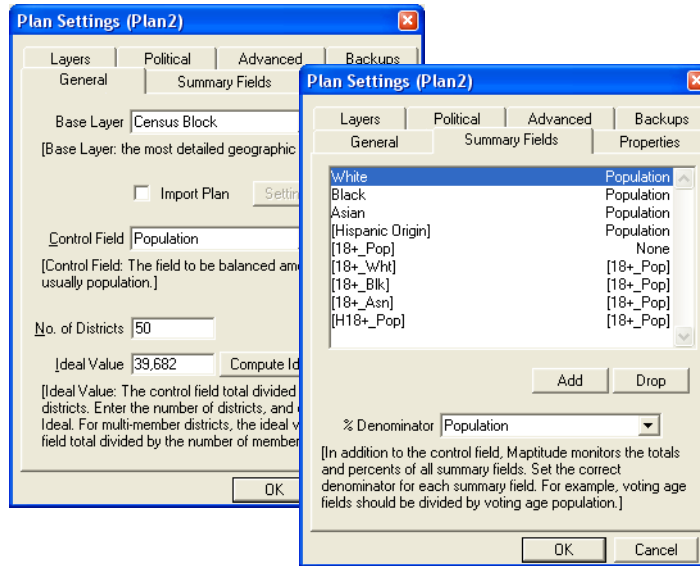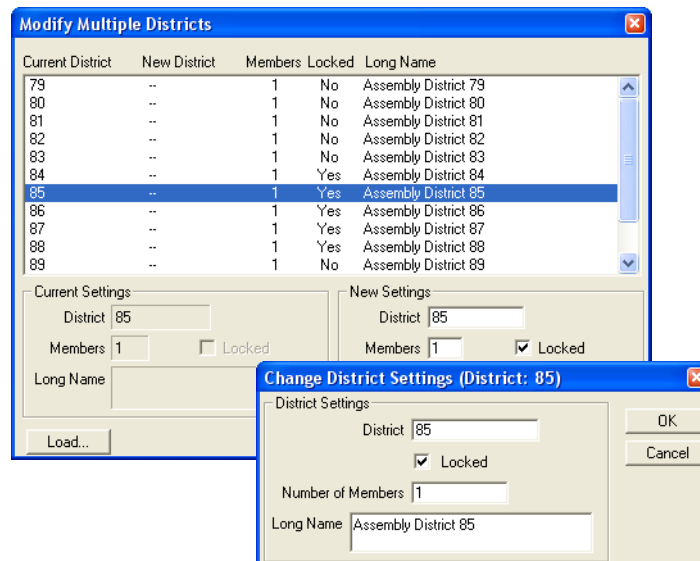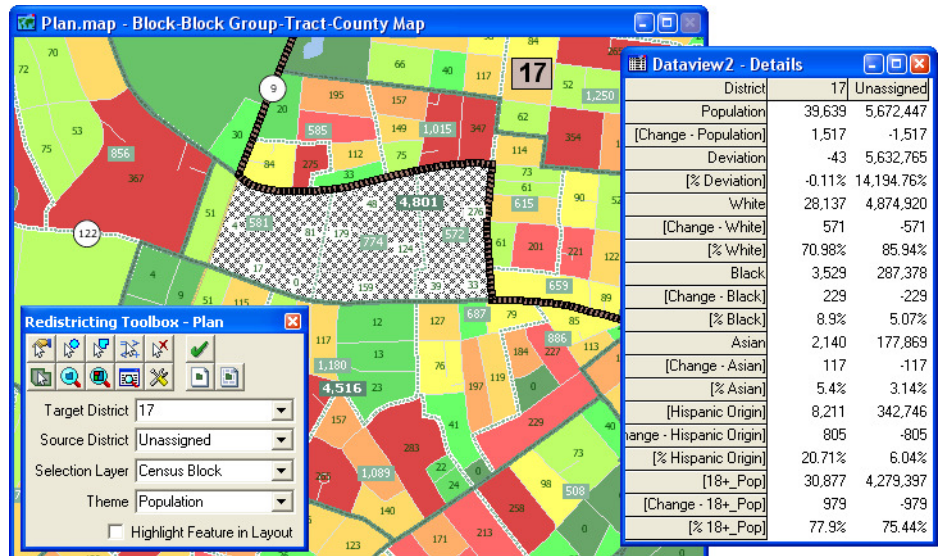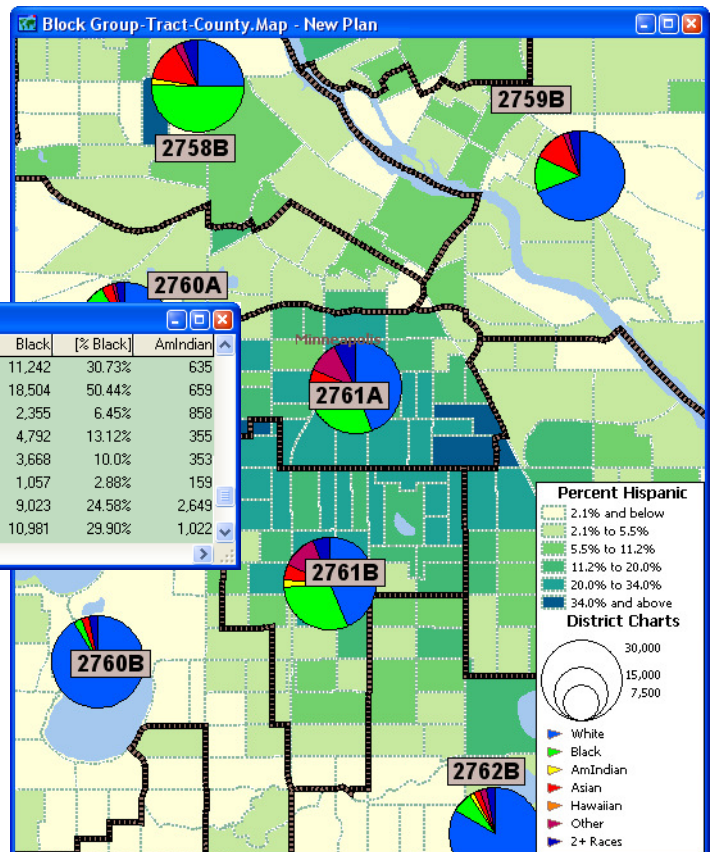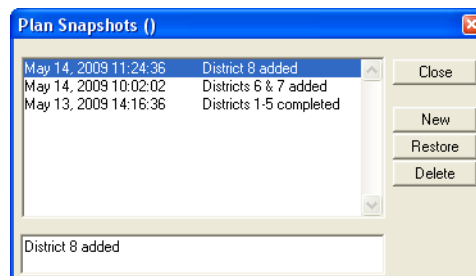
www.caliper.com/redistricting

• **Display attributes for any layer** using labels or
color, pattern, dot-density, scaled-symbol
or chart themes. Display summary
information in a table that contains the
district identifier, control field totals,
deviation from the ideal value, and the
totals and percentages for summary
fields.

Block Group-Tract-County.Map - New Plan

District	Population	Deviation	[% Deviation]	White	[% White]	Black	[% Black]	AmIndian
2758A	36,578	-22	-0.06%	17,502	47.85%	11,242	30.73%	635
2758B	36,687	87	0.24%	9,250	25.21%	18,504	50.44%	659
2759A	36,517	-83	-0.23%	29,151	79.83%	2,355	6.45%	858
2759B	36,517	-83	-0.23%	25,240	69.12%	4,792	13.12%	355
2760A	36,682	82	0.22%	29,891	81.49%	3,668	10.0%	353
2760B	36,739	139	0.38%	33,533	91.27%	1,057	2.88%	159
2761A	36,703	103	0.28%	16,208	44.16%	9,023	24.58%	2,649
2761B	36,723	123	0.34%	16,029	43.65%	10,981	29.90%	1,022

Percent Hispanic
- 2.1% and below
- 2.1% to 5.5%
- 5.5% to 11.2%
- 11.2% to 20.0%
- 20.0% to 34.0%
- 34.0% and above

District Charts

30,000
15,000
7,500

- White
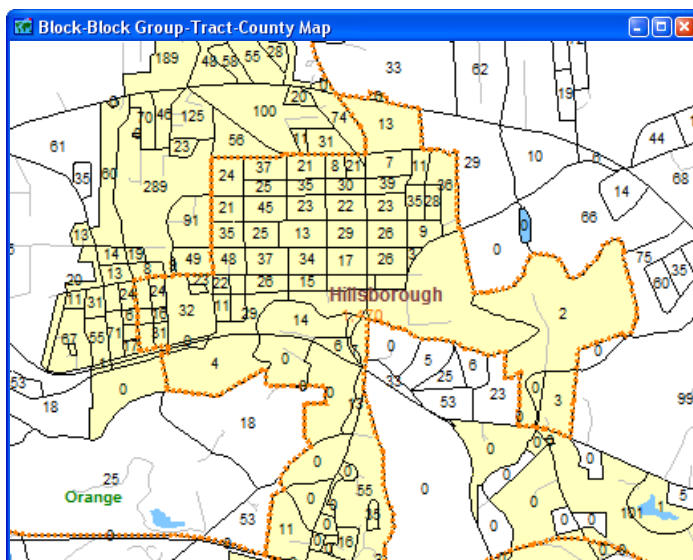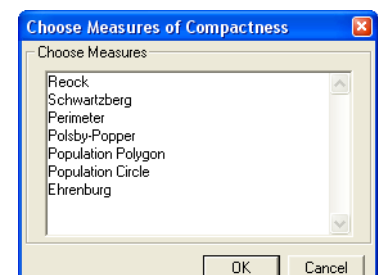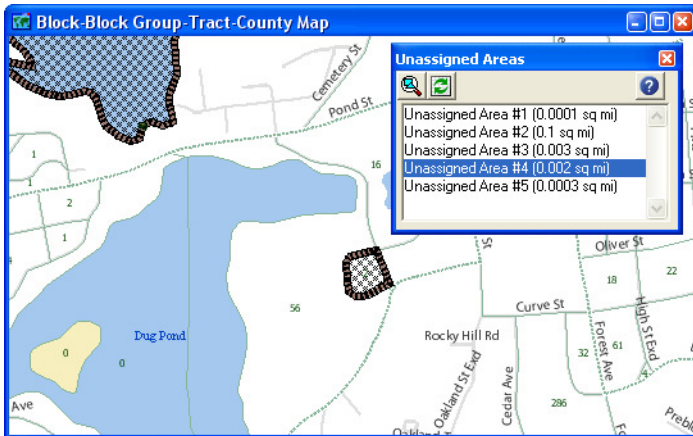- Black
- AmIndian
- Asian
- Hawaiian
- Other
- 2+ Races

• **Capture the current status of a plan** as a
snapshot. Each plan can have one or more
snapshots organized by date and time
under the same plan name. Return to any
snapshot, and use it as a departure point in
the evolution of the plan or as the starting
point for a new plan.

Plan Snapshots ()

May 14, 2009 11:24:36	District 8 added
May 14, 2009 10:02:02	Districts 6 & 7 added
May 13, 2009 14:16:36	Districts 1-5 completed

Close
New
Restore
Delete

District 8 added

Block-Block Group-Tract-County Map

• **Identify communities of interest**, keep them
intact within the same district, and lock
them so that they cannot accidentally be
reassigned.

• **Compute measures of
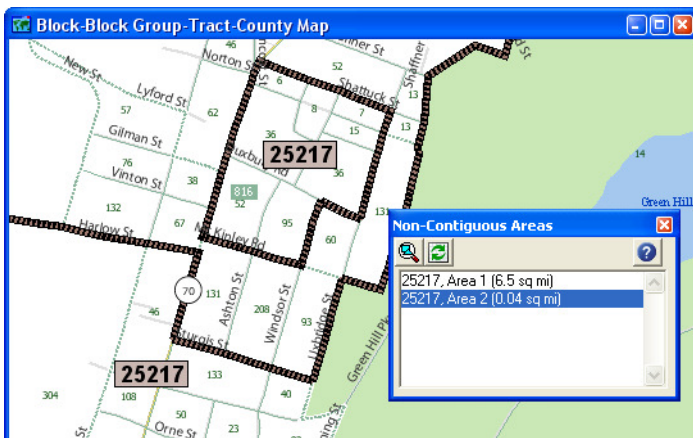compactness** to defend your
districts.

Choose Measures of Compactness

Choose Measures
- Reock
- Schwartzberg
- Perimeter
- Polsby-Popper
- Population Polygon
- Population Circle
- Ehrenburg

OK   Cancel

- **Easily find unassigned areas** and automatically assign them to the correct district

- **Export a plan to standard equivalency file** formats that can be read by other redistricting software and the Department of Justice.

- **Zoom to non-contiguous portions** of a district, and easily assign them to the correct district.

- **Print over 35 reports** including population summary, error check, political subdivision splits, incumbents, plan statistics, plan components, plan comparison, communities of interest, and more. Create custom reports and add them to the report menu.

- **Automatically create layouts** that display either a single district or the district and all adjoining districts, labeled with the district name, plan name, plan type, administrator, date created, and date last modified based on your settings. Create a map book containing layouts for any number of districts with a single mouse click.

"(Previously) we did redistricting with software and hardware that was bulky, difficult to use, and extraordinarily expensive. Today, Maptitude software provides us far more flexibility, ease of use, and capability at a fraction of the cost. Following redistricting, we will be able to continue to use Maptitude for GIS/data applications ranging from school bus transportation to land use development issues."
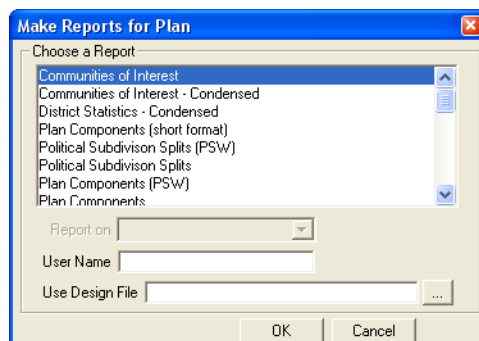Russell T. Larson
Delaware Controller
General

Senate Plan 2

- **Integrate your plans with Google Maps** and Google Earth. Save your plans in the Google format (.KML or .KMZ) and add them to Google Maps or 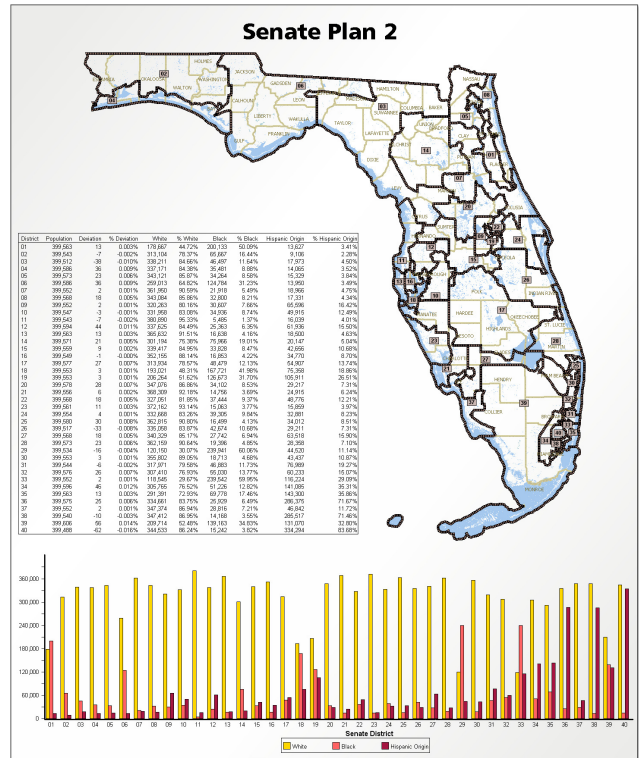Google Earth. Use the built-in Google Earth toolbox to display Google Earth in Maptitude as part of your plan or display your plan in Google Earth.

- **Print a completed plan** using page layouts that combine maps, data tables, and charts.

Works with Other GIS and Mapping Software

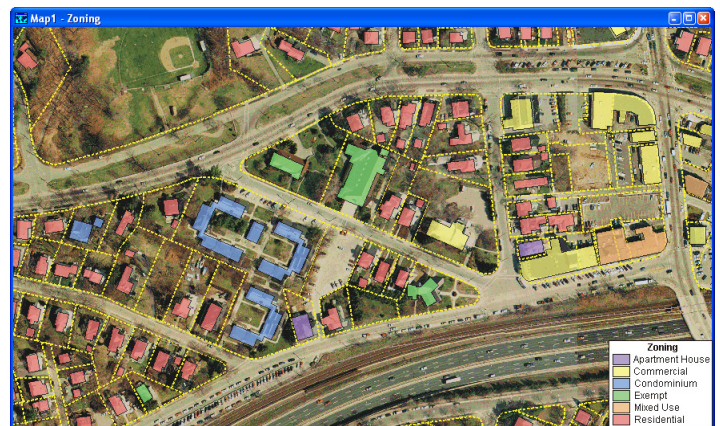*Compatible with ArcGIS, MapInfo, Oracle Spatial, and Google Earth.*

Maptitude supports over 50 file types and more than 100 GIS and CAD file formats allowing you to easily migrate your existing geographic data. You can map ESRI Shapefiles, Geodatabases, MapInfo TAB files, and Oracle Spatial tables directly, or use the built-in translators to import geographic data from a variety of other software packages and public sources. This extensive library of importers and exporters is one of the largest in the industry and comes at no additional charge. Export plans (geography and data) to these other formats for use with your existing software.

You can also use raster images such as satellite or aerial photographs directly in your maps. Maptitude includes toolboxes for quickly accessing on-line images from TerraServer-USA and GoogleEarth. These images can be used as a means of reference or in conjunction with the redistricting tools to draw your districts.

Direct Data Access for:
- Comma-delimited text (.CSV)
- dBASE/FoxPro/X-base (.DBF)
- ESRI ArcView 3.x Project (.APR) and Legend (.APL)
- ESRI Personal Geodatabase (.MDB)
- ESRI Shapefile (.SHP)
- Fixed-format text (.ASC)
- GPS Playback (.GPS)
- MapInfo TAB (.TAB)
- Metadata (.MET)
- Microsoft Access (.MDB)
- Microsoft Excel (.XLS)
- Oracle tables (.NTF)
- Oracle Version 7 (Spatial Data Option) and Version 8i (Oracle Spatial) files
- All ODBC sources (such as Access, DB2, Informix, Ingres, InterBase, NetWare SQL, Paradox, Progress, SQL Base, SQL Server, Sybase)
- Raster image files: ECW, GeoTIFF, JPEG, JPEG 2000, MrSID, Orthophoto, SPOTView, and TIFF

Import/Export Support for (Partial List):
- AutoCAD (.DXF)
- Digital Elevation Models
- Digital Line Graph (.DLG)
- Enhanced Metafile (.EMF)
- ESRI Export (.E00)
- ESRI Ungenerate (.LIN/.PTS)
- ETAK MapBase (.MBS)
- GoogleEarth (.KML/.KMZ)
- HTML
- Intergraph Design (.DGN)
- Interim Terrain Data (.SLF)
- MapInfo Interchange (.MIF)
- Portable Network Graphics (.PNG)
- Spatial Data Transfer Standard (.DDF)
- Strategic Mapping (Atlas) Boundary (.BNA)
- TIGER/Line
- USGS Land Use and Land Cover (.GIR)
- Windows Bitmap (.BMP)
- Windows Media Video (.WMV)

Publish Your Plans on the Internet

Maptitude for Redistricting lets you save your plans (maps, data tables, charts, layouts, and reports) as JPEG, PNG, and HTML files for static Web publishing. Caliper Corporation's Maptitude for the Web™ software makes it easy to publish your plans as interactive mapping applications on the Web. For example, a user can locate their address on the map, pan and zoom, query the district assignments, and display tables of data from their browser. Maptitude for Redistricting also lets you add your plans to Google Earth or Google Maps and add Google Earth images to your plans in Maptitude.

Maptitude Online Redistricting

Maptitude Online Redistricting is web-based redistricting software designed for states that want to provide individual citizens with a means to draw a redistricting plan and for state legislatures with members who wish to play a role in the redistricting process but who are not among the key players. Because the PC and online versions share common file formats, plans developed online can be electronically submitted to the central redistricting office, opened in the PC-based software, and analyzed to the full extent as if they had been created using the PC-based software.

"It's light years ahead. The software can do so much more, so much more quickly."
Karl Aro
Director, Maryland Department of Legislative Services

Our Clients (Partial List)

Maptitude for Redistricting is used by a majority of the state legislatures, both political parties, county and regional governments, city and local governments, elected officials, educational institutions, and public interest groups. For a more complete list, visit WWW.CALIPER.COM/REDISTRICTING/CLIENTS.HTM

National Organizations:
Democratic National Committee
Dept. of Justice, Civil Rights Division
National Republican Cong. Committee
Republican National Committee

State Organizations:
Alabama Democratic Party
Alabama House Majority
Alaska Division of Elections
Arizona House of Representatives
Arizona Independent Electoral Comm.
Arizona Redistricting Comm.
California Assembly Rules Cmte.
California Governor's Office
California Legislative Data Center
California Senate Minority Reapportionment
California Senate Office of Research
California State Assembly
Colorado Department of State
Colorado Governor's Office
Colorado House of Representatives
Colorado Legislative Council
Colorado Reapportionment Comm.
Delaware Commissioner of Elections
Delaware Legislature
District of Columbia Republican Party
Georgia General Assembly
Georgia Office of Planning and Budget
Georgia Redistricting Services
Idaho Legislative Services
Illinois House Republican Caucus
Illinois Senate Republican Caucus
Kansas Legislative Research Dept.
Kentucky Legislative Research Comm.
Louisiana House of Representatives
Louisiana Senate
Maine Judicial Center
Maine Legislature
Maryland Dept. of Legislative Services
Maryland General Assembly
Maryland Office of Planning

Massachusetts House of Representatives
Massachusetts Senate
Michigan Democratic Party
Minnesota DFL
Minnesota Governor's Office
Minnesota Legislative Coordinating Comm.
Minnesota Office of Planning
Minnesota Secretary of State
Minnesota Senate
Minnesota Supreme Court
Mississippi Community Policy Research
Mississippi Joint Reapportionment Cmte.
Missouri House of Representatives
Missouri Office of Administration
Missouri Office of Mgmt, Bdgt, & Planning
Missouri Senate
Nebraska Republican Party
Nevada Legislature
New Hampshire GCIS
New Jersey Office of Legislative Services
New Mexico Republican Party
New York Empire State Development
New York Assembly Democratic Majority
New York Assembly Republican Caucus
New York Governor's Office
New York Office of Technology
New York Senate Majority
New York Senate Minority
North Carolina General Assembly
North Dakota Legislative Council
Ohio Secretary of State
Oklahoma Governor's Office
Oklahoma Senate
Pennsylvania House Democrats
Pennsylvania Senate Democrats
Puerto Rico Supreme Court
South Carolina House of Representatives
South Carolina Senate
Tennessee Attorney General
Tennessee General Assembly
Tennessee Office of Legal Services
Texas Comptroller of Public Accounts

Texas General Land Office
Texas Legislative Council
Utah Republican Party
Vermont Legislative Council
Virginia Democratic Caucus
West Virginia Legislature
Wyoming Legislature

County & Regional Organizations:
Alabama Assoc. of County Commissioners
Alameda County CA Community Develop.
Anne Arundel County MD
Anoka County MN
Barton County KS
Calvert County MD
Cerro Gordo County IA
Champaign County IL County Clerk
Cobb County GA Elections
Comal County TX
Contra Costa CA Water District
Coweta County GA
Cumberland County ME
Forsyth County GA
Hardee County FL
Hardin County KY
Harris County TX Tax Office
Hennepin County MN
Hood County TX
Jackson County MO Election Board
Jefferson County CO Clerk and Recorder
Johnson County KS
Kanawha County WV
Kent County DE
Kent County MI
Lincoln County MT
Los Angeles CA Superior Court
McCracken County KY
Miami-Dade County FL County Comms.
Mobile County AL Engineer's Office
Nassau County NY
Navajo Nation AZ
New Castle County DE

Pasco County FL Supervisor of Elections
Pierce County WA, Elections
Polk County FL Supervisor of Elections
Putnam County FL Supervisor of Elections
Ramsey County MN
Saint Louis County MN
Saint Lucie County FL Supervisor of Elections
San Benito County CA
San Diego County Data Processing
Santa Barbara County CA
Santa Cruz County CA, ISD Dept.
Stillwater County MT GIS
Summit County NJ Board of Elections
Sumter County FL Supervisor of Elections
Tate County MS
Vigo County IN
Westchester County NY

City Governments:
Albany NY, Common Council
Baltimore MD, City Council
Buffalo NY, City Clerk
Dallas TX
Denver CO, Election Comm.
Los Angeles CA Council
Minneapolis MN Metropolitan Council
New York NY City Council
New York NY Redistricting Comm.
Pasadena CA
Pensacola FL, Planning & Development
Phoenix AZ
San Francisco CA, Dept. of Elections
Westport CT

Educational Institutions:
Alabama State Univ. Ctr. for Public Policy
Claremont McKenna College Rose Inst.
Mississippi State University Stennis Inst.
Princeton Univ. Woodrow Wilson School
UCLA, Dept. of Urban Planning
University of Georgia, Redistricting Svcs.
University of Pennsylvania Law School

Easy to Learn and Use

Maptitude for Redistricting includes on-line help and detailed manuals packed with step-by-step instructions and tutorials. The Plan Manager leads you through the process of creating your first plan and speeds the creation of all additional plans. Other wizards help you create maps, display data using meaningful themes, and geocode information based on street address. In addition, Caliper offers training at your site or at our headquarters in Newton, Massachusetts.

Complete Enterprise Solution

The Maptitude for Redistricting Plan Manager makes it easy to manage thousands of plans stored on a computer network. You can quickly find a plan by type, creator, date, key word etc. The Plan Manager lets you distribute plans for viewing and perform plan management functions across the enterprise. Data and plans can be stored on individual machines or on one central server with access controlled by both Maptitude for Redistricting and the network administration software.

Other Redistricting Services

Caliper provides database development, hands-on training, software customization, web design, telephone support, on-site support, priority support, and other related consulting services on a time and materials basis.

Ordering

Please contact Howard Simkowitz, Director, Government Services, at 202-652-1024 or HSIMKOWITZ@CALIPER.COM for pricing information. There are significant discounts for early adopters and for quantity purchases. Clients from the 2000 redistricting cycle pay just $500 per copy per year from the time their licenses expired to update their existing copies. You can download an order form at WWW.CALIPER.COM/REDISTRICTING or call Caliper at 617-527-4700 to place your order.

What Others Have to Say

Maptitude for Redistricting was featured in a December 2003 *New Yorker* article, "The Great Election Grab," by Jeffrey Toobin.

> [Assistant professor of law and political science Nathaniel] Persily zeroed in even more closely, and a little donkey popped up inside one of the census blocks. "That's where the local congressman lives, a Democrat," he explained. "We have little elephants for the Republican incumbents." [Maptitude for Redistricting] seemed easy to use, justifying the boast, on the software company's Web site, that you could "start building plans thirty minutes after opening the box."
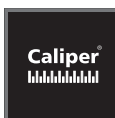
Maptitude for Redistricting was featured in a April 24, 2001 *Wall Street Journal* article, "Software Makes Redistricting Easier, Accessible," by Will Pinkston. Nearly everyone interviewed for the article uses Maptitude for Redistricting.

> In New Jersey, when a committee of five Republicans and five Democrats chosen by their parties couldn't agree on how to redraw the state's legislative boundaries, the state supreme court tapped Larry Bartels, a Princeton University professor, to break the impasse. After 10 days locked away in a hotel with the two sides, the professor emerged with a resolution: an entire state redistricting map drawn on a laptop computer, using [Maptitude for Redistricting].

> Cheaper software is letting independent consultants in the game, too. George Meier, former staff director of Florida's House reapportionment committee, had to requisition $600,000 in computer software and equipment in 1991 to draft new electoral district boundaries. This year, as a redistricting expert freelancing for cities and counties in Florida [using Maptitude for Redistricting], his overhead is considerably lower: He got everything he needs loaded onto his Dell laptop for under $4,000. And Baltimore civil-rights attorney Samuel L. Walters is using [Maptitude for Redistricting] to pitch his expertise to minority groups and local governments. Mr. Walters, who worked for the NAACP during 1991's redistricting, says he expects to quickly recoup his costs.

The Rose Institute at Claremont McKenna College conducts and publishes research primarily on California government and politics. Here is what the Rose Institute has to say about Caliper Corporation in its 2005 report, "Restoring the Competitive Edge: California's Need for Redistricting Reform and the Likely Impact of Proposition 77"

> [Caliper Corporation's] longstanding and generous support makes possible all of the Rose Institute's demographic, redistricting, and geographic information systems (GIS) research. Their outstanding, powerful and easy-to-use Maptitude software enables us to train our students up from GIS novices to expert users in only a few hours, and the software's extensive analytic capabilities provide the service and power needed for our work.