# What's NEW in Maptitude® 2016

## Maptitude 2016: New Features Overview

Maptitude 2016 is a major release of Caliper Corporation's popular GIS (Geographic Information System) and mapping software. The 2016 version provides the most up-to-date and accurate data available.

Maptitude 2016 provides the business value you should expect when investing in mapping software. It includes the latest streets, postal data, and demographics. Maptitude 2016 is the fastest and most intuitive professional mapping application, with significant enhancements to map redraw speeds, territory management, and in the creation of efficient trip plans.

Maptitude 2016 answers specific operational questions with data driven solutions. You can ensure balanced and equal territories using any combination of demographics and sales data. You can create multiple trip plans, schedule stops and stop duration, calculate fuel costs, and create directions.

Maptitude can map your information whether you have data from Google Maps, a Microsoft mapping product (such as MapPoint), or from Microsoft Office. You can analyze your information using the intuitive Maptitude 2016 mapping wizards, and export your results as attractive preformatted Excel or PDF reports.

Maptitude delivers easy-to-use professional mapping tools and data at the unbeatable price of only US$695 (or US$395 for upgrades.) For pricing and ordering information please visit the Mapping Software Store, e-mail Maptitude sales, or call us at +1 617-527-4700.

## New Data

### Country Packages

Maptitude 2016 comes standard with one detailed Country Package of your choice, and additional Packages can be purchased separately. Each Package includes a wealth of data unavailable in any other product, such as an up-to-date street layer with addresses for pin-mapping (geocoding) and travel time information for computing routes and drive-time rings. Features such as building footprints for many urban locations, railways, and named landmarks are also built-in to the software. The comprehensive landmarks range from public facilities to commercial buildings including shops, restaurants, and retail stores. Where available, postal data and detailed demographics are shipped with the product.

As you switch between the countries you have purchased, Maptitude will seamlessly refresh the interface with country-specific tools such as the Create-A-Map Wizard™ and tools for finding, pin-mapping, and routing. New Map Libraries allow you to easily create attractive geographic and demographic maps while locating unlimited numbers of addresses and territory-based records.

The basic global map that is provided with every Maptitude license enables you to view your data anywhere on Earth, and it allows you to map your locations by coordinate, manually, or by any populated place (village/town/city).

### United States

New U.S. data sets provide access to the most up-to-date geographic information. Maptitude 2016 comes with October 2015 HERE® Map Content, which allows for accurate address locating and street visualization, in addition to robust data with which you can calculate shortest paths, drive-time rings, and drive-time territories (network partitions). Speeds based on HERE Traffic Patterns are now included.

Other 2015 U.S. map layers from HERE include those for buildings, highways, railroads, and landmarks. The Points of Interest layer contains over 2.5 million named public and business locations.

Maptitude 2016 ships with the January 2016 ZIP Code update to ensure that you are using the latest data. The 5-digit ZIP Code boundaries are a nationwide area database with ZIP Codes for all 50 states, the District of Columbia, Puerto Rico, and the territories. Other standard features of Maptitude 2016 are updated 3-digit ZIP Code areas and a point database of ZIP Code centroids for the entire country. The ZIP Code area layers extend into non-deliverable areas to provide complete coverage of the USA. The 3-digit and 5-digit ZIP Code areas include updated counts of businesses by detailed industry type (retail, finance, etc.), along with how many employees work at each business and annual payroll figures. The ZIP Codes are also classified by their updated rural-urban commuting characteristics.

The US Census boundaries (e.g., Tracts, Counties, MCDs, MSAs, States) and the 3- and 5-digit ZIP code areas that come with Maptitude contain some or all of several demographic profiles from a variety of data providers. These sources include the 2010 Census and the 2014 American Community Survey (ACS) to name a few. These data are available for the USA, Puerto Rico, and the Territories. The ZIP Code, Tract, County, and State layers also include updated buying power (disposable income) figures. Tracts also list updated banking compliance FFIEC data for 2015. The Map Librarian makes it easy to access a series of pre-defined thematic and shaded maps of these data.

### Australia
- October 2015 HERE update with speeds based on noontime HERE Traffic Patterns
- Updated Local Government boundary layer with 2014 population by age and gender
- Updated HERE postal boundaries and points

### Brazil
- October 2015 HERE update with speeds based on noontime HERE Traffic Patterns
- Updated HERE postal point layer

### Canada
- October 2015 HERE update with speeds based on noontime HERE Traffic Patterns
- Updated HERE postal FSA boundaries and points
- Updated Census Subdivisions

### Germany
- October 2015 HERE update with speeds based on noontime HERE Traffic Patterns
- Updated HERE postal boundaries

### United Kingdom
- October 2015 HERE update with speeds based on noontime HERE Traffic Patterns
- Updated HERE postal boundaries
- Updated Caliper postal boundaries

### Mexico
- October 2015 HERE update with speeds based on noontime HERE Traffic Patterns
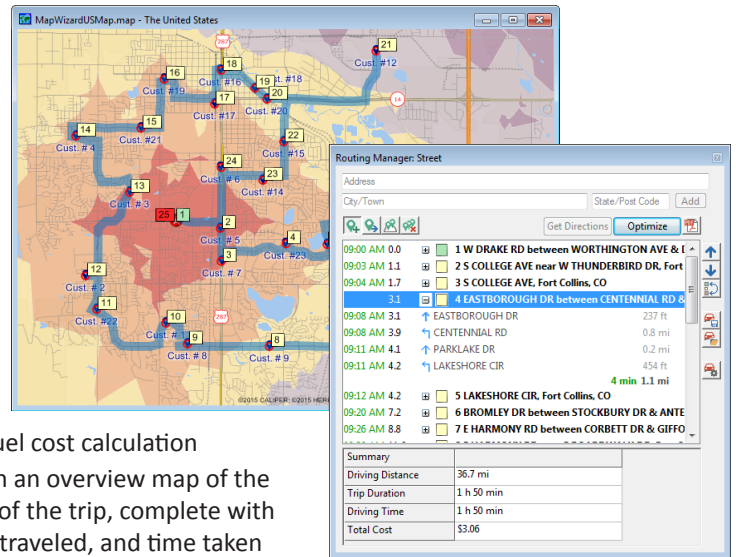- Updated HERE postal boundaries and points

### New Zealand
- October 2015 HERE update with speeds based on noontime HERE Traffic Patterns
- Updated HERE postal boundaries and points

# Network Analysis and Routing

## Shortest Path Toolbox

The revamped Shortest Path Toolbox now features:

- An improved travelling salesman solution with faster and more efficient shortest path/route calculations
- An improved and more intuitive interface with embedded directions, stop reordering, start and end stop identification, route saving and loading, speed adjustments by road category, stop scheduling and duration, and fuel cost calculation
- An improved "strip map" report with an overview map of the route, along with maps for each leg of the trip, complete with turn arrows, street names, distance traveled, and time taken

## Drive-Time Rings Toolbox

The Drive Time Rings Toolbox improves your ability to create the most accurate drive-distance travel analysis on the market with the following enhancements to the tool:

- Updated shortest path calculations
- Improved speed and efficiency while using less memory
- Redesigned interface with cumulative bands, separate origins, and driving speed adjustments
- Removed complexity and slowness of exclusion layer, resulting in fewer drive time ring holes
- Removed minimum and maximum number of band constraints (the maximum depends on PC specifications)

# New Map Styles

## Styles

- The new default font for point layers uses a new font set "Caliper Symbols"
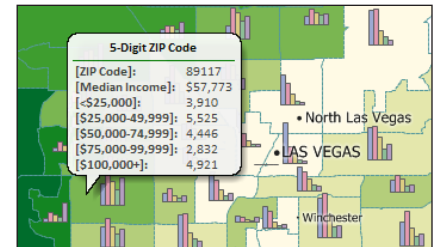
## Layers

- Layers with Feature Display style overrides in the default maps have a default style and warn users when modifying the default layer style that there are Feature Display style overrides
- The default United States maps include the 3-digit ZIP Code layer

## Themes

- The Scaled-Symbol and Dot Density themes use a new Caliper Symbol Font for area layers
- The Scaled-Symbol theme font sizes and icon better reflect user font size choices and the underlying data range

# New Hover Tool

A new Hover Tool shows temporary balloon "labels" (tool-tip type popups) for map features that your cursor is resting on, and the priority and settings of these items can be changed.

## Locating Data

The geocoding tools use the updated street and postal data, resulting in a better success rate when locating addresses with postal/Zip Codes

Country Package specific changes:

- USA:
    - Metropolitan (MSA/CBSA) geocoding and boundary mapping by full name or FIPS/ANSI code
    - 3-digit ZIP Code geocoding and boundary mapping

## New Documentation

Maptitude continues to offer numerous ways to get you started with the software. There is a brand new PDF User Guide, along with new and revised 60-second tutorials and training videos. The 60- second tutorials and video tutorials are incorporated into the Online Help. In addition, live and pre-recorded training webinars are available on the website.

## System and Interface

Maptitude 2016 supports the latest Windows operating systems, file types, and common design elements. Maptitude 2016:

- no longer supports installation on a Windows XP operating system
- supports Windows 10
- includes new and redesigned buttons and toolbars that make tools more distinguishable, familiar, and accessible
- provides significant speedups in access to routes/directions, drive-time rings, and geographic analysis, and also faster map drawing of styles, filters, layers, and labels
- provides improved usability features:
    - *Edit-Preferences* for drive-time rings that allows the user to change the resolution of the ring
    - *Edit-Preferences* for the Hover Tool that allows all settings to be changed, including the hover shape, font, opacity, and whether to use the working layer or a layer hierarchy
    - *Edit-Preferences* for a "Language" drop-down list that translates the distance units displayed in Maptitude, allowing you to publish maps with your local language in the legend

### New File Import Support
- Import Google Earth documents (KML/KMZ) attribute data fields
- Import Microsoft Streets & Trips files (.EST) & Microsoft AutoRoute files (.AXE)
- Import MapPoint Map Files (.PTM) icon styles and colors
- Import Excel files (.XLSX) even when Microsoft Office is not installed

### New File Export Support
- Export to new video & sound formats (.ASF, .MP4, .MOV, .M4V, .3GP, .3GPP, .3G2, .3GP2)
- Export Excel files (.XLSX) even when Microsoft Office is not installed

### New Native File Support
- Caliper Route File (.RouteFile) for saved routes and shortest paths
- Microsoft Access and Excel 2016 files even when Office 2016 is not installed

## Improved Create-a-Map Wizard

Create-a-Map Wizard™ is now more robust and easier to use.

- The maps have been updated with the latest geography
- Launch the new Territory Manager from Create-a-Map Wizard
- Automatically map your data as pushpins or as a thematic map by 3-Digit ZIP Code and MSA/CBSA (Metropolitan Statistical Area/Core Based Statistical Area) when using the 2016 U.S. Country Package

## Creating Selections and Formulas

The condition building tools are significantly faster to use with these improvements:

- The Merge by Sets (formerly Create Territories) conversion on selection sets is faster
- The reading of formula fields is faster

## Projections/Datums

Maptitude 2016 has expanded support for datums and projections with:

- Support for new datum conversions for Hungary, Italy, the Netherlands, and Venezuela
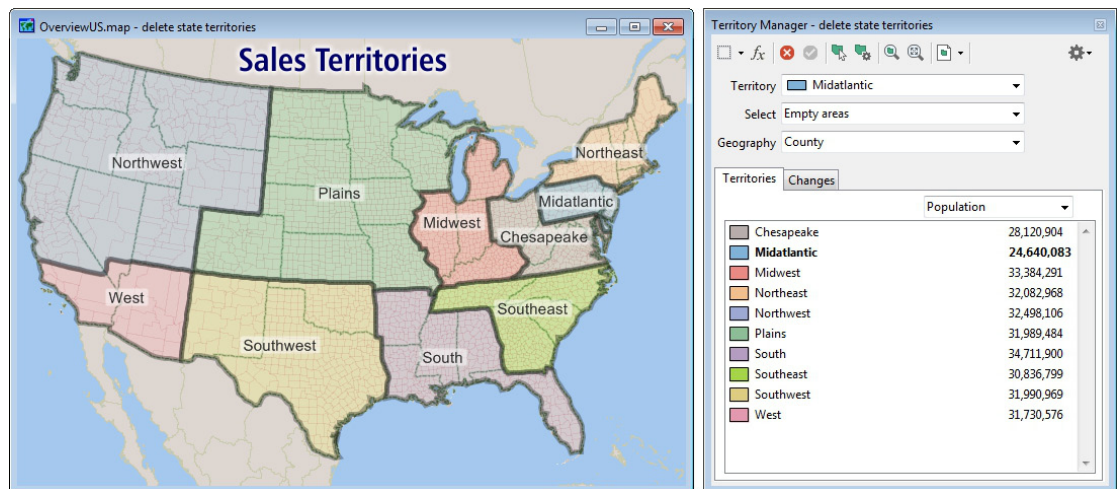
## Analysis Tools

Completely new and innovative analytics were added to Maptitude 2016:

### Territory Manager

Businesses require robust territory creation tools that excel in both the handling of data tables and in the visual manipulation and representation of your service areas. We designed Maptitude 2016 to exceed these requirements with an intuitive Territory Wizard and a sophisticated Territory Manager with complete undo and redo support.

The Territory Wizard provides a step-by-step guide, from data input all the way through to territory creation. Maptitude 2016 will handle all your territory design needs including creating territories from scratch, creating overlapping territories, or creating territories based on tables, filters, sales person, facility location, or from existing map boundaries.
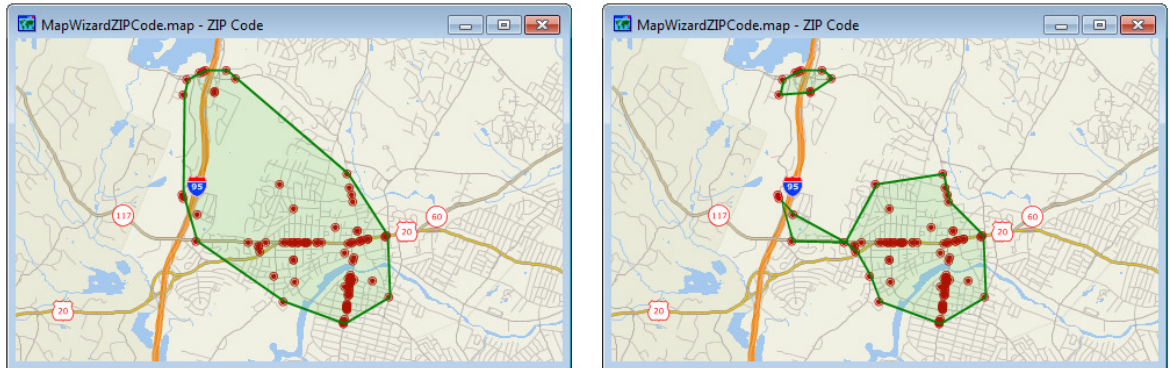


The Territory Manager can be used by simply clicking or lassoing the areas in a map with which to create your territories. These territories can be allowed to overlap, and you can see running totals of demographics or sales data. If you are creating territories based on postal areas, for example, you can still use larger areas such as counties and states to create your regions. Single click export allows you to see your territory list and corresponding geography, such as postal areas, and also includes demographic reports.

The Territory Manager can refresh your territories to match updated geography and demographics, as reflected, for example, by the latest ZIP Codes.

### Point/Area Conversion Tool

This tool uses a layer of points to create new areas by enclosing clusters of point locations, such as customers, forming what are known as alpha shapes. You can set a tolerance level for grouping clusters that are farther apart into separate areas. The alpha shapes created can be convex hulls.



### Existing Tool Improvements
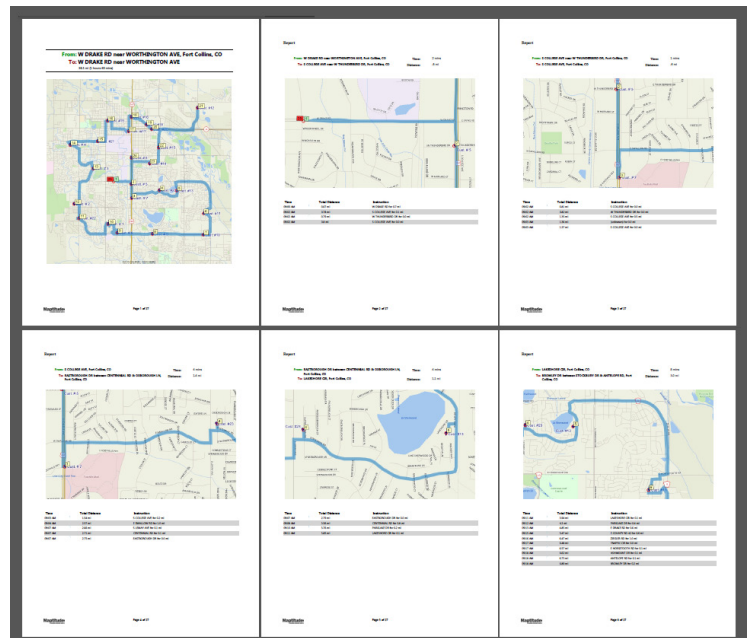
Several modifications to existing tools were implemented:

- *Tools-Geographic Analysis-Create Territories* renamed to *Merge by Sets*
- Overlay is much faster
- The circle/radius drawing tool and the line drawing tools can be labeled with distance

## Output Improvements

In Maptitude 2016 you can quickly and intuitively create high-quality reports for Microsoft Office Excel or as a PDF.

You can immediately view an Excel demographic report when using the Drawing Toolbar to create a lasso, circle, or rectangle, or when analyzing your service areas, territories, or drive-time zones. The Excel reports enable you to make well-informed location-based decisions using clear and concise results that can be easily shared.



The Maptitude 2016 routing tool provides a strip map report that can be saved to many formats including Excel and PDF. The new report shows an overview map of the route, along with maps for each leg of the trip, complete with turn arrows, street names, distance travelled, and time taken.

The *Map-Record Video* tool now uses the modern broadcast standard video encoding format, H.264. Videos can be saved to new file formats and these can include audio. There are also additional options such as the ability to control frame rate.

New support for creating animated GIFs that include a user specified playback speed is also provided.

## Geographic Information System Developer's Kit (GISDK)

The main highlight of the GISDK improvements is the new programmatic access to the underlying functionality of the Maptitude drive-time rings tool.

The new drive-time rings .NET API makes it easy to add this functionality to any Windows desktop application written in C# or any other .NET programming language.

A code example is here: http://www.caliper.com/Maptitude/extending-maptitude-in-dot-net.htm.

The API creates drive-time zones and exports the resulting shape as an array of coordinates, allowing you to easily store and retrieve the shape and to use it with GISDK functions for drawing items or via the AddArea() methods. Point-in-polygon or merging operations could then also be used, and new styles could be applied to the shapes.

### GISDK Functions

Please see the "Listing of GISDK Functions" topic in the Online Help to view a full list of GISDK functions that were added, changed, or replaced in Maptitude 2016. The highlights of these changes include:

- The CreateHullDB() function that creates an alpha-shape
- The SetDisplayUnits() function that sets the measurement units (to be used in drop-down lists and legends) to be in a language of your choice
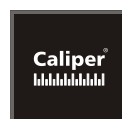
## About Caliper

Caliper Corporation develops state-of-the-art Geographic Information System (GIS) software. With a focus on usability, Maptitude is designed to be a cost-effective professional mapping software product. Maptitude enables organizations to leverage their location-based data to improve decision making and planning, while minimizing expenditure through competitively priced solutions.

Caliper is a privately held corporation and is a leading developer of mapping, redistricting, transportation, traffic simulation, and GIS software.

**Caliper Corporation**
1172 Beacon Street, Suite 300
Newton, MA 02461-9926 • U.S.A.
Telephone: 1-617-527-4700
info@caliper.com • www.caliper.com

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