U.S. Pat. No. 6,604,083

Office Max

Retail Site Selection Based on Drive Time Areas

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U.S. Pat. No. 6,604,083

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Bailey

(10) **Patent No.: US 6,604,083 B1**
(45) **Date of Patent: Aug. 5, 2003**

(54) **MARKET DETERMINATION BASED ON TRAVEL TIME BANDS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/095,802**

(22) Filed: **Jun. 11, 1998**

Related U.S. Application Data

(60) Provisional application No. 60/049,448, filed on Jun. 12, 1997.

(51) **Int. Cl.**[7] **G06F 17/60**
(52) **U.S. Cl.** **705/10**; 701/201
(58) **Field of Search** 705/1, 10, 14; 700/200, 201; 707/10; 701/201

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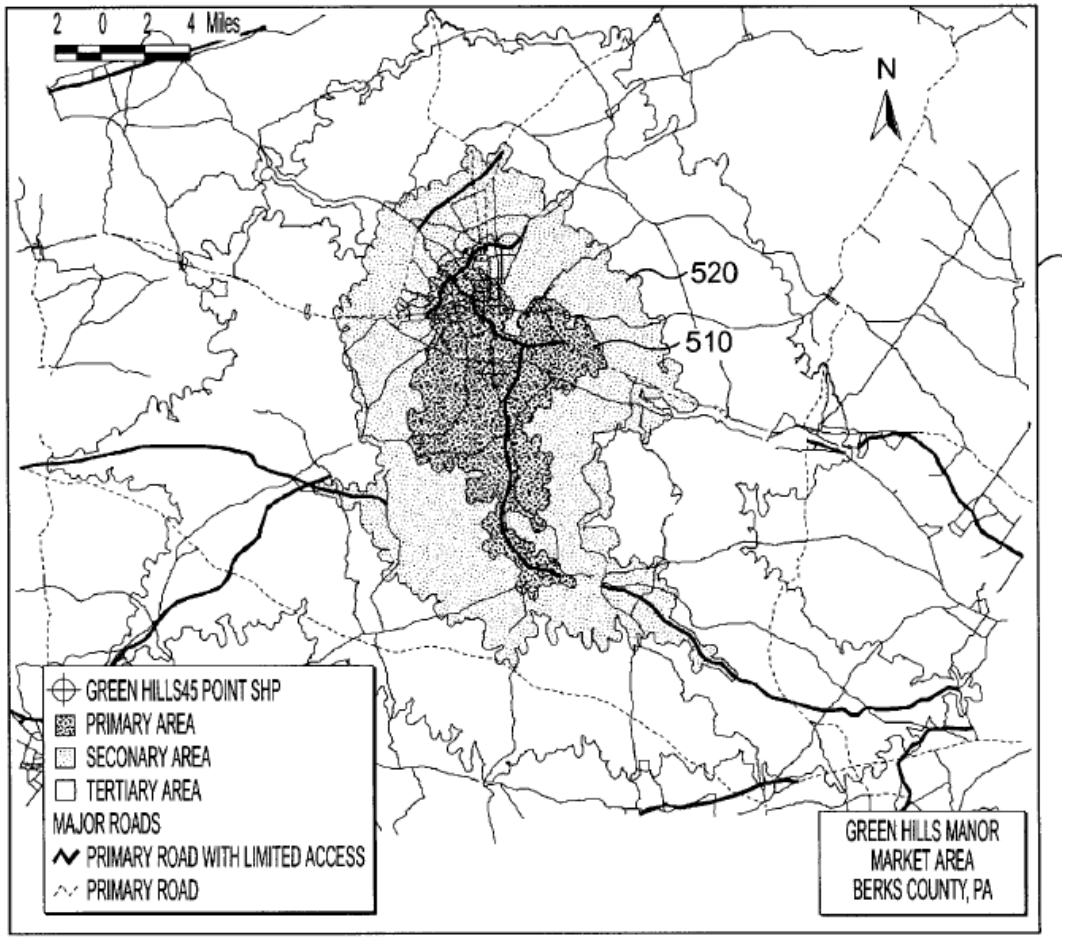
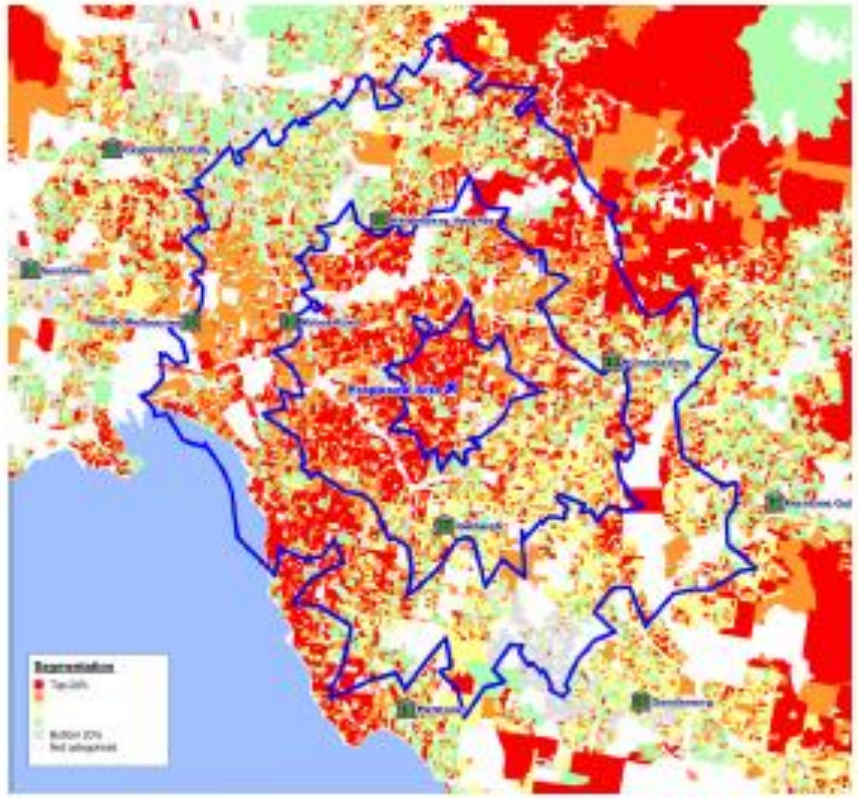


FIG. 5b

Drive-time analysis is another location intelligent capability that is powerful for retailers. It simulates geographic catchments of travelling times. This help a business factor in travel convenience as a parameter in retail network modelling.



http://www.mapinfo.com/wp-content/uploads/2014/03/New-Location-Perspectives-in-Retail-In-The-Zone_Thought-Leadership-Paper_Pitney-Bowes-Software-Australia.pdf

Claim 5

A method for preparing a market study comprising:

defining a geographic area around a selected location, the geographic area corresponding to a market based on a selected maximum travel time;

defining a plurality of bands based on increasing travel time from the location;

selecting geographic units in the bands;

defining market-related variables for the market;

calculating values corresponding to the market-related variables for each of the selected geographic units; and

calculating a net demand for a service or a commodity in the market based on the values.

Solutions for Enabling Lifetime Customer Relationships.

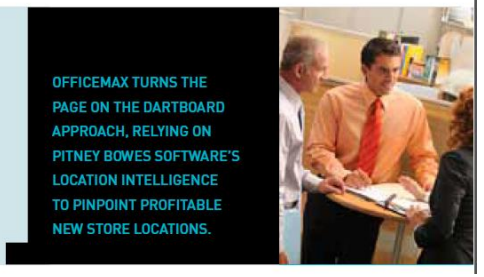
Pitney Bowes Software

CASE STUDY

OfficeMax

"LOCATION INTELLIGENCE ENABLES US TO TAKE THE GUESSWORK OUT OF OUR SITE SELECTION PRACTICES."

Chad Krause, Manager of Real Estate Strategy & Research, OfficeMax



Using AnySite®, an essential decision support tool for the retail, restaurant, real estate and financial services industries, Krause began examining site and trade-area attributes for new OfficeMax stores. Initially, AnySite helped guide the real estate team in prioritising the core markets to primarily focus on based on sales potential. This helped OfficeMax develop a more systematic approach to opening new stores, enabling the real estate team to more quickly move onto new markets once one market is close to saturation.

AnySite is specifically designed to provide retailers and restaurants with insight into their location, customer and market research, which becomes critical when analysing the relationship between store performance and market trade area demographic characteristics. With the help of location intelligence solutions, OfficeMax was able to more accurately outline the characteristics of a target trade area, which generally includes a large concentration of white collar small businesses and mid- to high-income households.

http://www.pitneybowes.com/content/dam/pitneybowes/australia/en/legacy/docs/Australia/Case%20studies/Case%20Study%20-%20OfficeMax.pdf

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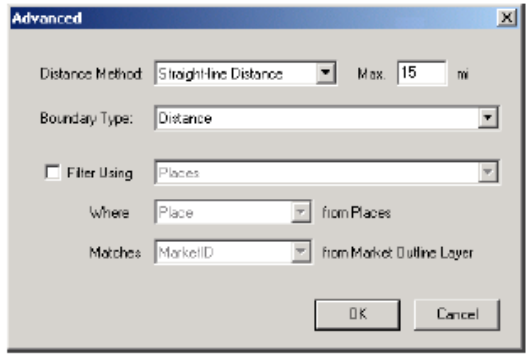
Advanced Options

Clicking **Advanced** in the Capture Method dialog opens the Advanced dialog. This lets you change the method of how AnySite creates your capture boundary. It is important that you understand fully the settings of this dialog. It is also recommended that you try several different settings until you find one that meets your specific analysis needs.



Distance Method

To create the capture boundary AnySite will take the closest object in the capture layer going from closest out until the threshold value is attained. Currently there are three methods for determining the distance between your site and the objects from the capture layer. These are:

- Straight-Line distance – Uses a straight "as the crow flies" measurement of the distance between your site and the surrounding objects in the capture layer.
- Drive-Time distance – Calculates an estimated drive time from your site and the surrounding objects in the capture layer.
- Drive distance – Calculates an estimated drive distance between your site and the surrounding objects in the capture layer.

In general, straight-line distance will disregard any geographic features on the map (for example, rivers, lakes, and so on) Drive-Distance and Drive-Time distance will be influenced by the underlying road network and therefore will, in some cases, be affected by geography.

Max (distance or time): If the threshold is not met within the maximum distance, or time, the capture study area is not generated.

http://reference.mapinfo.com/software/anysite/english/8_8/reference/AnySite_Reference_US_CAN.pdf

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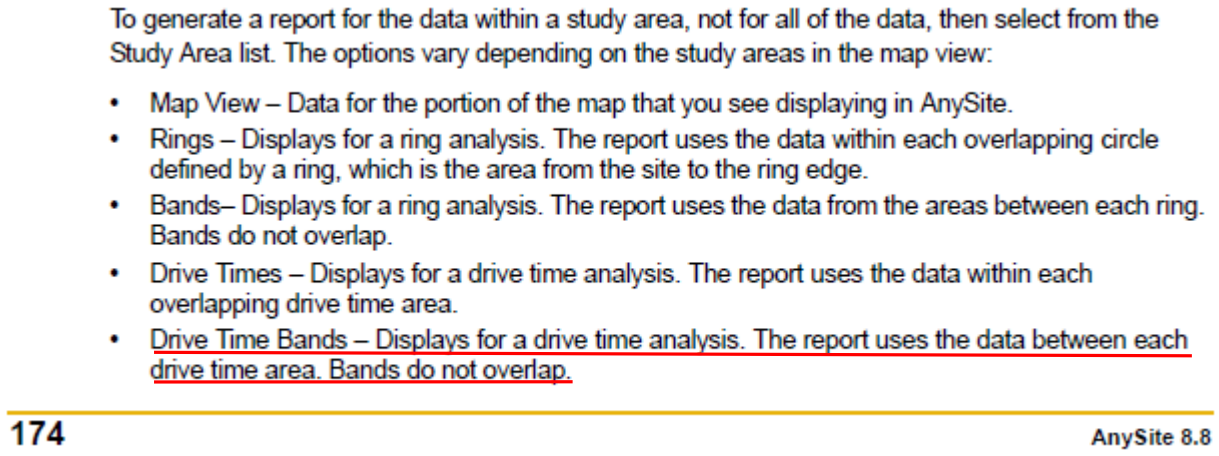

To generate a report for the data within a study area, not for all of the data, then select from the Study Area list. The options vary depending on the study areas in the map view:

- Map View – Data for the portion of the map that you see displaying in AnySite.
- Rings – Displays for a ring analysis. The report uses the data within each overlapping circle defined by a ring, which is the area from the site to the ring edge.
- Bands– Displays for a ring analysis. The report uses the data from the areas between each ring. Bands do not overlap.
- Drive Times – Displays for a drive time analysis. The report uses the data within each overlapping drive time area.
- Drive Time Bands – Displays for a drive time analysis. The report uses the data between each drive time area. Bands do not overlap.

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http://reference.mapinfo.com/software/anysite/english/8_8/reference/AnySite_Reference_US_CAN.pdf

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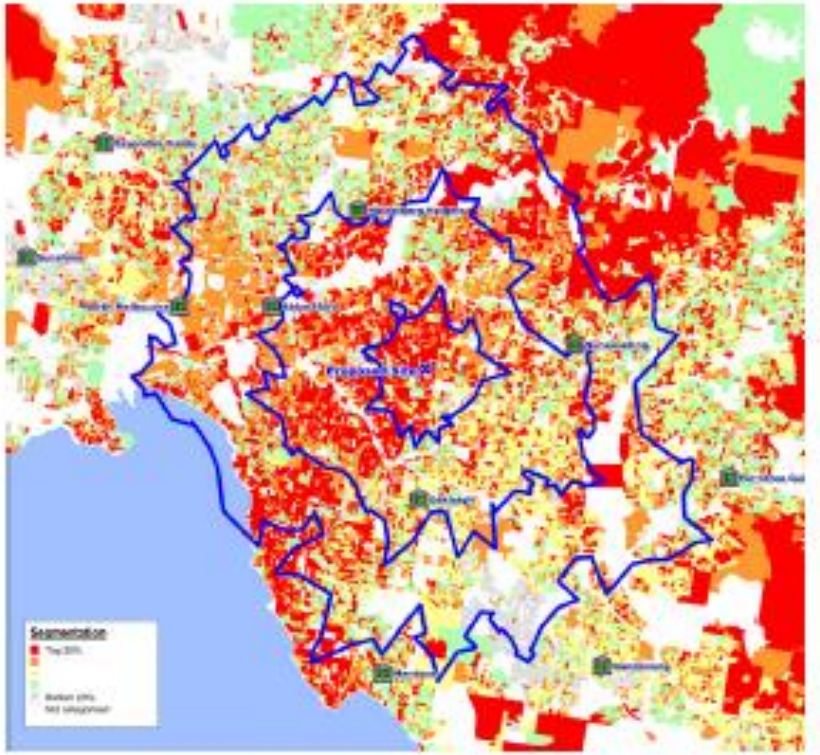

Figure 4: Consumer lifestyle segmentation data is displayed in relation to a potential retail site. It also shows 5, 10, 15 minute drive time catchment boundaries around the site.

Comment: Catchment boundaries are exemplary drive time bands.

http://www.mapinfo.com/wp-content/uploads/2014/03/New-Location-Perspectives-in-Retail-In-The-Zone_Thought-Leadership-Paper_Pitney-Bowes-Software-Australia.pdf

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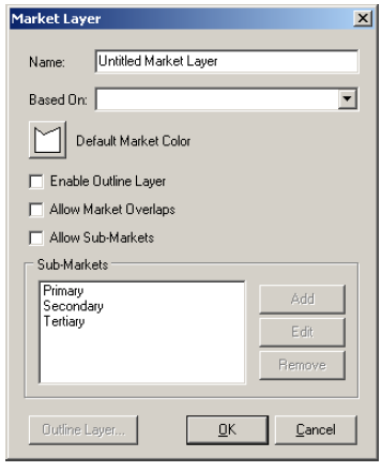
Index Report	Summary Report that has a benchmark study area and calculated index values. It lets users compare the demographics for a location's study area against the data of a predefined geographic area. The First Column displays the aggregated data from the geographic objects, such as blocks, block group, and census tracts, that fall within a defined study area. This data is then indexed against a pre-defined area created through the Index manager, such as the United States, Orange County, or any custom trade area created in AnySite. This is the benchmark. An Index is then created by comparing the study area value to the benchmark. An Index of 100 is average. Data that populates an Index report can be retrieved from ASDE only.

Reference 393

4. The Market Layer dialog opens.



In this dialog:

- Type the market layer name in the **Name** box.
- In the Based on list, click the geography on which the market will be based. Standard geographies include block groups, ZIP codes, census tracts, counties, and states.

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http://reference.mapinfo.com/software/anysite/english/8_8/reference/AnySite_Reference_US_CAN.pdf

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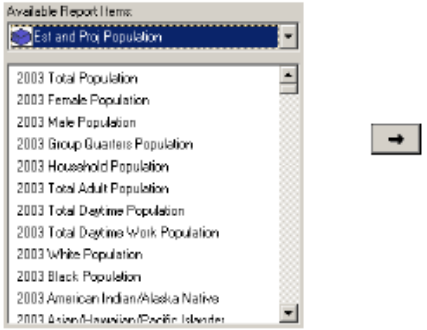
Add a variable to the report by selecting the variable in the list and clicking the right arrow button, double-clicking on a variable will also bring it over into the list.

The Available Report Items list includes maps and charts to add to a report and includes report formatting. To select multiple variables, press the CTRL or SHIFT key when clicking variables.



The item appears in the Design View list, so they will appear on the report.

Removing Variables from the Report (Design View list)

You can remove a variable from the Design View and therefore the report by selecting the item and clicking on the left arrow. To remove an item, select it and then click **Delete**. Press the CTRL or SHIFT key when clicking items in the list to make multiple selections.

You can also create formulas using multiple variables.

Adding a Custom Formula to the Report

Formulas from Flat MapInfo tables must all come from the same data table. Formulas from ASDE groups can be defined across groups. To do this you click **New Formula**. This opens the ASDE Formula Editor dialog. Refer to Group Manager on page 352 for more information.

http://reference.mapinfo.com/software/anysite/english/8_8/reference/AnySite_Reference_US_CAN.pdf

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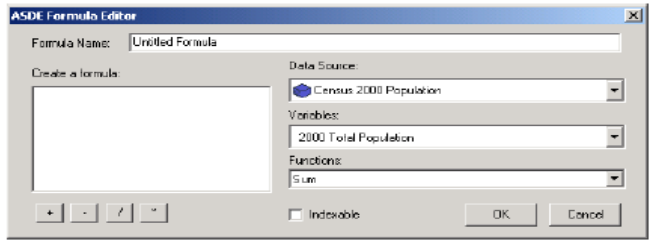
The AnySite Data Engine (ASDE) format compresses large data sets to conserve space and to increase speed and accuracy. Variables pulled from the ASDE can be aggregated from the block, census tract, ZIP Code, county, or state level as you choose.

Index Reports

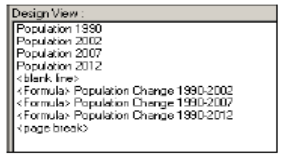


Type a name for the formula, and select from the following:

- Data Source – Lets you switch between multiple ASDE data sources.
- Variables – Lets you create the actual formula by selecting what data to use and the add/subtract/multiply/divide buttons for simple formulas.
- Functions – Lets you sum up a list of variables, calculate the median of a list of variables and access the area value to calculate density values.
- Indexable – Lets you use the formula in an index report.

After completing the formula and clicking **OK** the new item appears in the Design View list.

After creation, the formula will be available for use in the "USER DEFINED FORMULAS" data source. Formulas are designated by <Formula> in front of the name.



http://reference.mapinfo.com/software/anysite/english/8_8/reference/AnySite_Reference_US_CAN.pdf

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While Krause and a real estate analyst at OfficeMax are the primary AnySite users, the research and analysis they perform using Pitney Bowes Software software is shared across several other departments. After a new store is approved, the real estate team partners with the marketing department to generate a proposed trade area to purchase the direct mail that will go out to potential new customers. As a result, the marketing department can more precisely determine where to concentrate efforts, which helps cut costs and eliminate unnecessary mailings. Krause also works with the finance and store operations groups to help them forecast sales for the next year. Additionally, if a competitor is building in the same trade area, they can predict the impact the new store will have on the current OfficeMax location.

http://www.pitneybowes.com/content/dam/pitneybowes/australia/en/legacy/docs/Australia/Case%20studies/Case%20Study%20-%20OfficeMax.pdf

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Claim 6

The method of claim 5, wherein selecting the geographic unit includes determining whether a centroid corresponding to the geographic unit falls within at least one of the bands.

The following system options can be set at any time:

Option	Description
RTF Viewer	Sets the program you want to use to view reports.
RTF Printer	Sets the program you want to use to print reports.
DBF Viewer	Sets AnySite to send database files to a program such as Excel.
MapInfo Pro	Sets where MapInfo Professional is located. MapInfo Professional is not required to use AnySite, but can be used to enhance AnySite's functionality.
Calculate Demographics Using Centroids	This is used with data coming from flat MapInfo tables. Selecting this option directs AnySite to only sum the demographics for areas whose centroids are within the study area.
Launch Viewer for Exported Reports	Tells your system to open any exported report in the program specified above.

http://reference.mapinfo.com/software/anysite/english/8_8/reference/AnySite_Reference_US_CAN.pdf