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Target Marketing with GIS

Jim Romeo

In an effort to streamline marketing initiatives and plan for future growth in enrollment, Illinois' McHenry County College, northwest of Chicago, has turned to the power of GIS.

Jim Romeo is a freelance writer based in Chesapeake, Virginia. He is the author of two books, and numerous magazine articles. He focuses on business and technology topics, including GIS applications.

The first graduating class of Crystal City, Illinois' McHenry County College (MCC) in 1970 was comprised of 42 students. Today, the institution enrolls more than 11,600 students per year in baccalaureate transfer courses, and college officials expect to see continued growth in enrollment — thanks in part to the use of GIS to streamline marketing initiatives. In addition to those taking baccalaureate transfer courses, over 45,000 students participate in educational opportunities each year for professional training, workforce development, and continuing or adult education.

College officials expect the number of baccalau-reate transfer students to increase to more than 17,000 annually in the next 15 years. In fact, as of spring 2004, the college has experienced a 42 percent growth rate for its enrolled credit hours (when compared to enrollment 10 years ago).

Historically, MCC employed direct-mail marketing campaigns to attract prospective students. The college's Office of Marketing and Public Relations (OMPR) publishes and distributes 15 printed course schedules to area households, but only recently has it begun using analytical mapping resources to target prospects more effectively.

"Third-class bulk rate saturation mailings to postal-carrier routes were utilized," said Len Walker, MCC's

The Heart and Soul of a Community College

What's the typical profile of McHenry's attendees? There is no single profile for prospective community college recruits, because differing market segments carry unique profiles and demographics. The whole point of the segmentation and mapping initiative was to selectively make contact and communicate with these groups according to a predetermined marketing-communications strategy.

For example, traditional students age 17–24 may typically enroll in baccalaureate transfer courses. Adult learners ages 24–50 are typical of those enrolling in certificate or degree programs in occupational areas, or to learn new professional skills. Employers and employees interested in workforce training fit a different profile — as do participants in continuing education programming (hobbies, crafts, and leisure-time activities). Adult education students may enroll in English-as-a-Second-Language or GED preparation courses.

MCC sought the best expenditure of its direct-mail dollar by finding out who's who, and who's where by using using census and other demographic data to zoom in on their in their service area. They then layered this information spatially using GIS. This approach provided a useful tool to focus the distribution of course schedules and provide the best return on their marketing dollar. Data can be displayed on maps to visualize their prospects by age, level of educational attainment, occupation, ethnicity, and household income. The college employed this information to pinpoint their marketing efforts in a most efficient way.

director of marketing and public relations. Every registered postal address received these mailings, whether someone was living at residence or not, including construction sites, unoccupied rental units or unused post office boxes.

Today, Walker aligns the college's geocoded databases with consumer information obtained from various software providers to create a spatial representation of the college's demographic base. This allows for wiser decision-making regarding the spending of marketing dollars, he said, and it enables him to "whittle" unfruitful demographic areas from his direct-mail campaigns.

Walker said he first saw the need for a more targeted marketing effort when he began tracking and recording course-schedule distribution in spreadsheet format. He also tracked the response rate based on postal ZIP code and carrier-route information for the geographic areas in question. Over time, he said, patterns began to emerge. An opportunity existed to increase efficiency while saving substantial resources.

"About two years ago, we proposed to college administration that we eliminate distribution to areas that did not produce significant enrollment over time," Walker said. "We further proposed that we shift from saturation-mailing tactics to a targeted segmentation strategy distributed at pre-sorted standard postal rates. Each piece would carry the recipient's name and address and a unique eight-digit subscriber key code that identified his or her record in a centralized reader-service database. By soliciting various sources for consumer mailing lists, we compiled a comprehensive database for our initial use and have continued to refine it over the past 18 months."

Consumer mailing lists were attained from a variety of sources, including list brokers, credit bureaus, professional organizations, trade publications, SAT test results, chambers of commerce, residential telephone companies, and other sources, and they were compiled based on the different profiles of different segments that their marketing strategy encompassed (see "The Heart and Soul of a Community College" sidebar).

GIS Makes the Grade

To geocode the college's two types of databases (prospect and enrollment) Walker enlisted the help of TETRAD Computer Applications Inc, a Bellingham, Washington, firm specializing in the use of consumer location applications using GIS technology. MCC worked together with TETRAD in a collaborative team to materialize the outcome of this effort.

The prospect databases include names and addresses of individuals who have received credit and noncredit course schedules during the years. MCC considers people in these databases to be potential enrollees. Enrollment databases include names, addresses, and spending information about those students who have already taken courses at the college.

Using the geocoding tool within a proprietary GIS, TETRAD geocoded all of the addresses in both the enrollment and the prospect databases. "Now we can see where MCC's students reside and where course schedules were being distributed," Walker said.

The firm then helped Walker to create color-coded thematic maps to illustrate the density of course-catalog distribution as well as enrollment throughout MCC's service area and surrounding counties (see Figures 1a–1c). This was accomplished by aggregating the number of students and schedules by U.S. Census Bureau block-group geography (see Figure 2). The software solution provided by TETRAD relied on census data to profile schedule recipients and enrollees, which could then be displayed spatially on a GIS map.
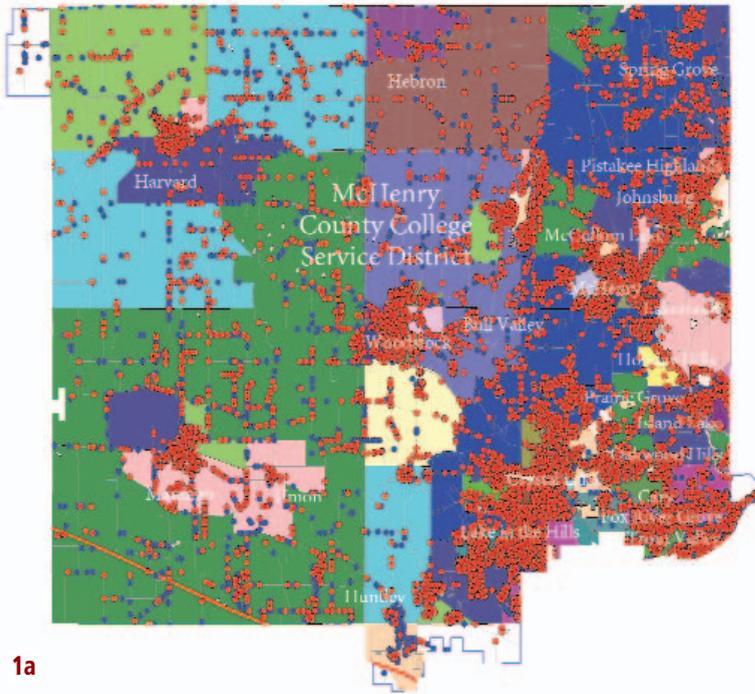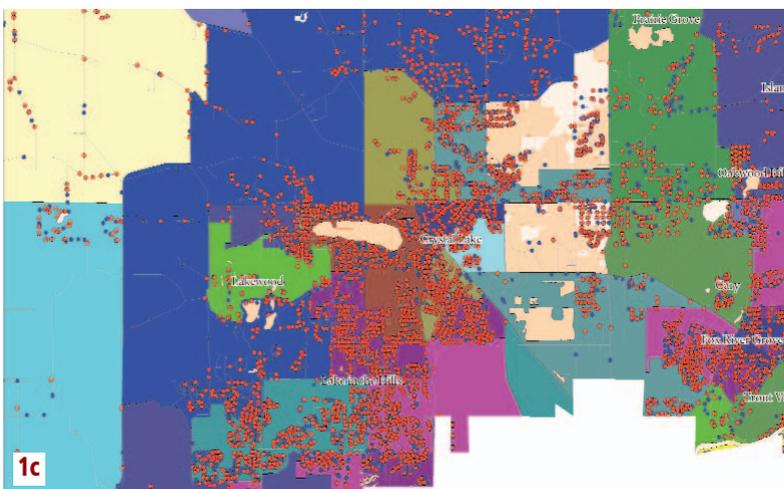
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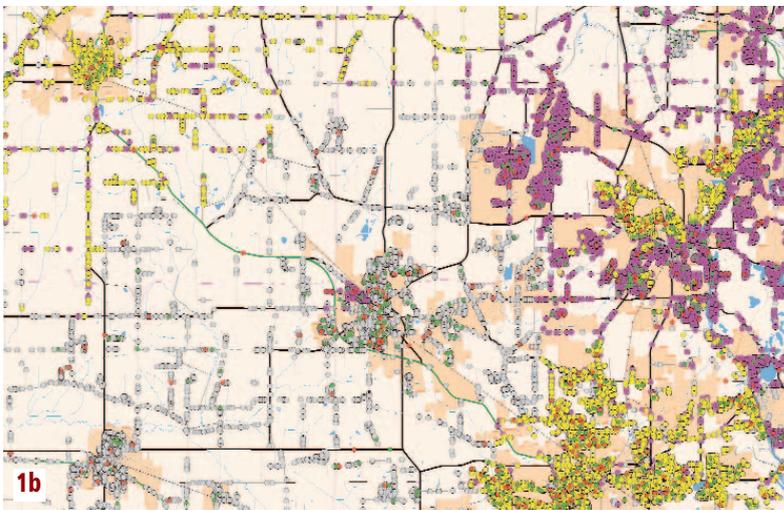
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1c

A block group (BG) encompasses approximately 300 households and is the smallest geographical unit for which U.S. Census data are aggregated and reported. The population, number of households, average income, and other census variables are available at the BG level.

Through a collaborative effort between MCC and TETRAD, the project used a proprietary segmentation solution to profile individuals found in its databases. Many businesses interested in location and site selection use such solutions to understand their customer base and where customers reside. The product classifies national households into 66 segments, which are organized into 11 age-driven life-stage groups and 14 social groups, all of which are driven by socioeconomic variables. The provider of the geocoding tool sent the geocoded databases to the segmentation-solution developer, where the files were appended with the segments based on the ZIP+4 in which a person resides.

MCC also used a site- and market-analysis tool that provides census data from the U.S. Census Bureau and Statistics Canada. That tool's structure accommodates data derived from statistics and from the blending of census data with data from private surveys and other sources. This practice can provide such metrics as current-year estimates, future-year projections, consumer spending and consumption estimates, business data, demographic segmentation, crime-risk analysis, and financial behavior.

 "We are most interested in the age of occupants, level of educational attainment, occupation, ethnicity, and household income," said Walker. "Using U.S. Census updates, we are watching the changing demographics and can forecast projections five years forward."

According to Walker, comparisons between household data and enrollment at the block level allow him to model marketing campaigns that can return a higher yield in enrollment than might otherwise occur. He estimated that the sum total investment in software is approximately $10,000. However, MCC's savings during the first year on printing alone reached $60,000, and postage savings are in excess of $40,000. Current year projections are even greater.

But developing a segmentation strategy was just the beginning of MCC's use of GIS to optimize out-

Figures 1a–1c. To illustrate the density of course catalog distribution, MCC's contractor created thematic maps of service-area credit enrollment (**1a**), noncredit enrollment (**1b**), and credit enrollment (**1c**).

reach and service to prospective students.

Information on Demand

OMPR has been using the selected mapping software for almost two years. The maps generated are available publicly via the Internet. The map-sharing application is server-based and allows anyone to view the created maps. They also can share files by using FTP applications via the Internet.

Walker said that MCC profiles its customer base, enabling recipients of course catalogs as well as current students to update and customize their customer-profile information online. This has proved key in developing the market potential of those with an interest in the college's programs, he said. "We are using this strategy for credit and noncredit programming, with differing constituent groups requesting specialized information on demand."

To keep the profile databases current, Walker invites those who receive MCC catalogs to log onto MCC's server-based reader service, a SQL database known as *Get Better Info* to update their contact and other information. Individuals insert an eight-digit numeric key code found on their mailed catalogs, along with their first and last names, to gain permission to alter their own profiles (**see Figures 3 and 3b**).

This not only keeps data current, Walker said, it also sustains catalog recipients' interest in MCC and the college's course offerings. Entry into *Get Better Info* is completed through an ASP screen for data submission. OMPR monitors and administers the database. The "Get Better Info" portal also allows recipients of unwanted mail to remove themselves from the database. "In the case of someone who did not receive a desired publication, they can re-subscribe," Walker said. "In the last year, over 20,000 records have been modified as result of the portal. The database currently contains about 180,000 records."

Manufacturers

McHenry County College (MCC) collaborated with **TETRAD Computer Applications** to geocode and map its enrollment and distribution data. With the help of TETRAD, they used PRIZM segmentation solution from **Claritas Inc.** to profile household attributes of both the enrollment and distribution databases. MCC programmed the proprietary reader service application using SQL architecture. They used **Microsoft** SQL Server 2000 as their development environment. ⊕
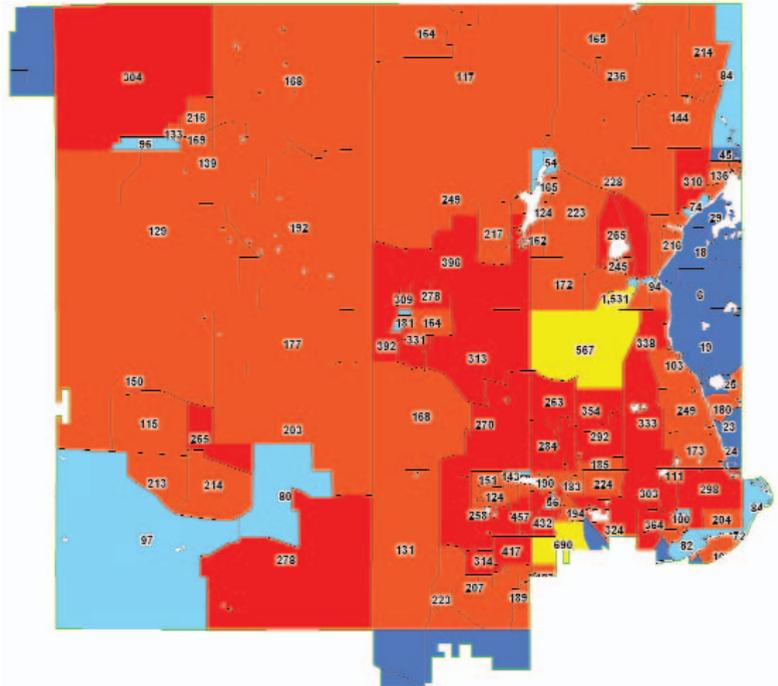
Figures 2. MCC aggregated the number of students and schedules distributed using the U.S. Census Bureau block group geography.
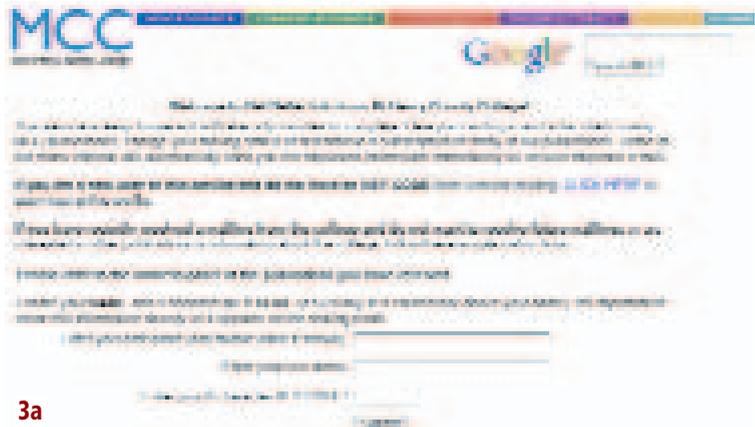
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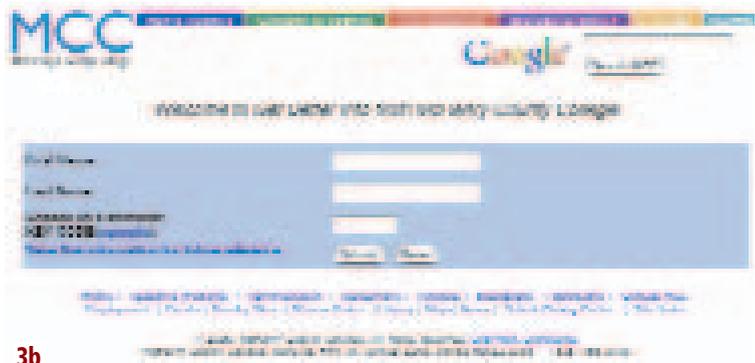
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Figures 3a and 3b. When recipients of MCC mailings visit the college's Get Better Info portal at www.mchenry.edu/getbetterinfo, they see this user log-in screen (**3a**). After log-in using their first name, last name, and ID code from the publication's mailing panel, a visitor can complete the interest profile (**3b**).