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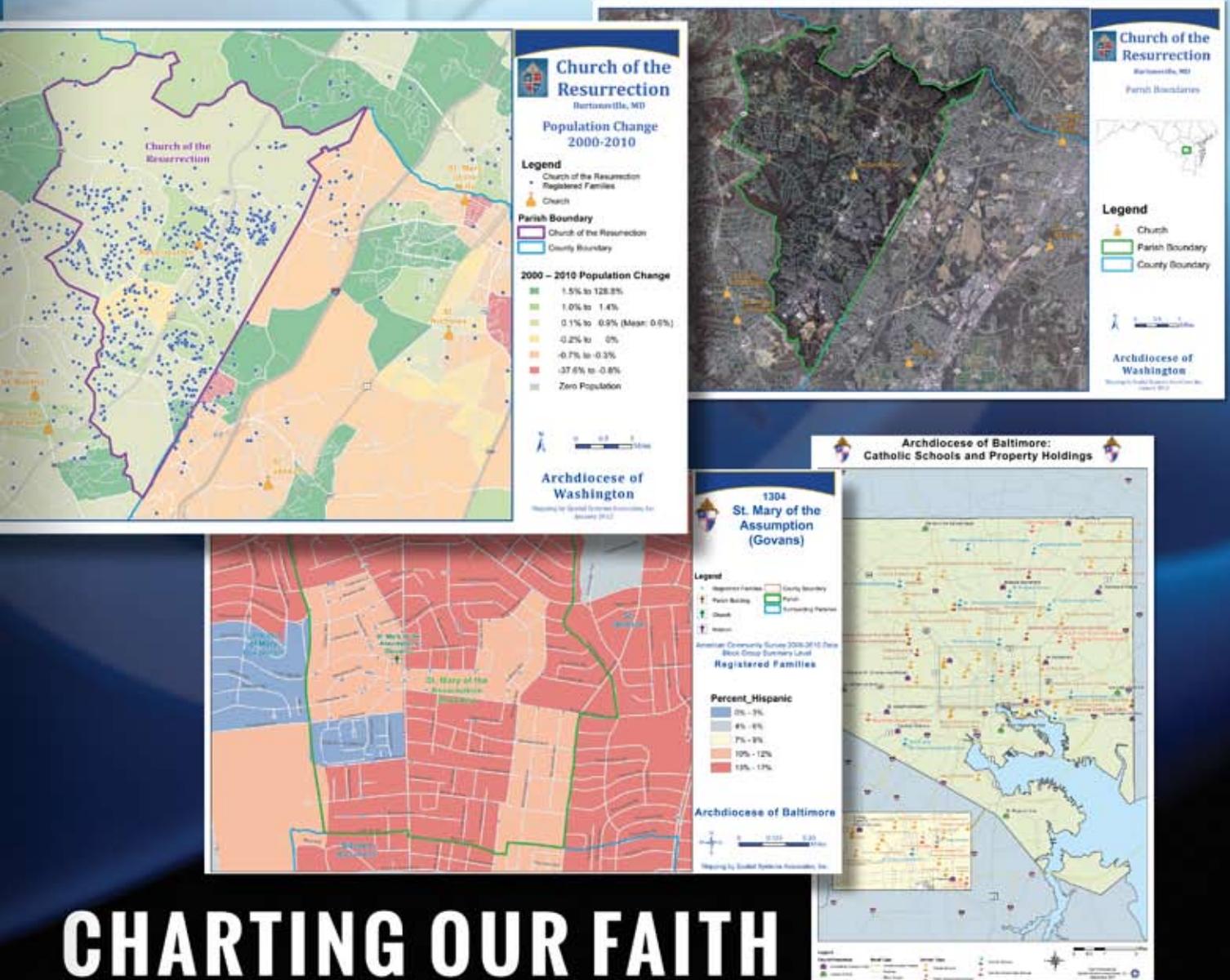
CHARTING OUR FAITH
Use of Computerized Mapping Technology in Our Church

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CHARTING OUR FAITH

## Use of Computerized Mapping Technology in Our Church

By Larry Newman

As members of the Catholic Church, we as parishioners are each called to follow the example of Jesus in the best way we know, with the ultimate goal of assuring our salvation by following his teachings. Who among us would deny this as our lifetime goal? As IT professionals, those of us who work within the computer community of the Church attempt to use our skills not only to provide a living for ourselves and our families, but also to assist our employer, the Church, in helping to guide parishes and ultimately parishioners toward their achievement of the same goal.

How, then, can computerized mapping or GIS technology lend itself to assisting in achieving these goals? The Church is facing many challenges today while continuing to reach out to the faith community in a meaningful way to guide parishioners toward the goal of salvation. The Church is a worldwide organization. It is the world's largest Christian church with over one billion members. The Church is divided into Dioceses, each led by a bishop who reports directly to the Pope in Rome. Within each Diocese, parishes are established. In the U.S., there are approximately 180 Dioceses, and each Diocese has an average of about 100 parishes—which means there are over 18,000 parishes within the U.S.

Diocesan Boundaries - Nationwide

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Each Diocese and each Parish has defined geographic boundaries; and within these boundaries are found the local Catholic faithful. Some percentage of that faithful is "registered" to a local parish,

but not nearly all. A typical parish in Dioceses in the eastern U.S. has approximately 1200 families registered—some parishes many more and some less. Usually the majority of the registered families reside within or very near the border of the parish to which they are registered.
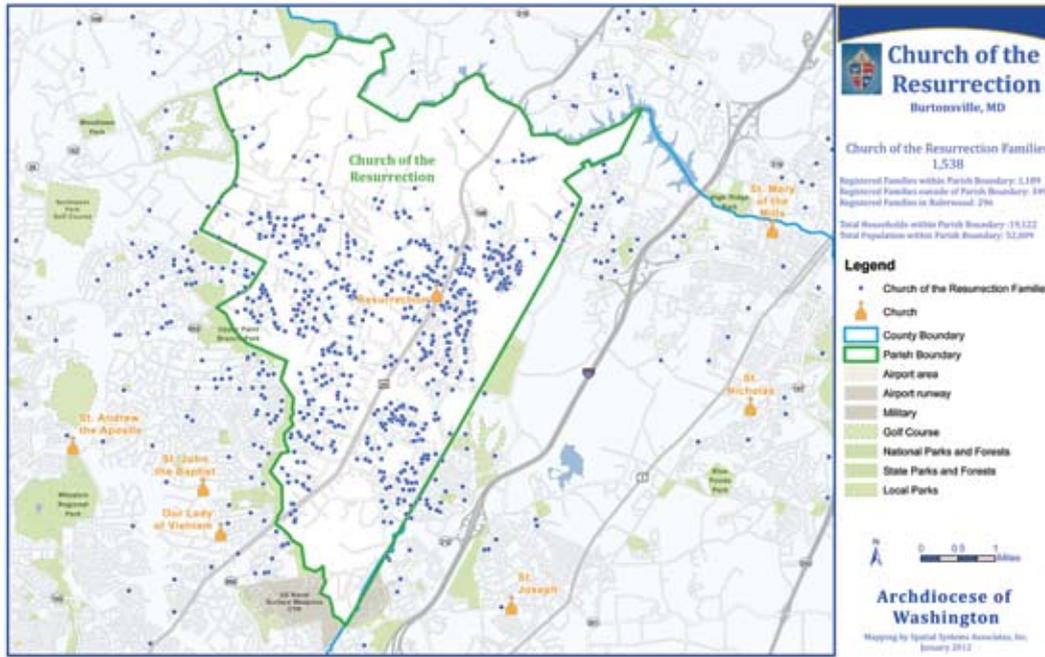
As the population grows or decreases in a specific region, it is sometimes necessary to establish new parishes or close down parishes that are no longer self-sustaining. Parishes often establish Parochial schools to provide a quality, faith-based education to the regional community. As demographics within a region change, it is sometimes necessary to build new schools or to close existing schools whose attendance has fallen to the point that it is no longer economically justified to continue its operations. Decisions such as these are made at the Diocesan level by individuals who are not computer experts—they need your help, even if they do not know it.

How does a Diocese come to understand when it is necessary to establish a new parish or to close an existing one? How does a Diocese come to know when the age demographics of a region can support a new parochial school, or when a region can no longer feasibly continue to support the schools that have been established in the region in the past? How does a Diocese justify closing

one parish rather than another, or consolidating a number of schools into one?

How can a diocese or parish come to understand where there may be opportunities to evangelize within their boundary, and the potential for success in that evangelization effort? How can a diocese or parish understand the extent to which registered and unregistered Catholics are contributing financially to the support of their church as a percentage of household income, and the opportunity that exists for increasing revenues by suggesting a certain level of giving, such as "the first hour each week" of wages?

How can a parish seek to identify opportunities for reaching out to its community to provide social services, the extent to which such services are needed within the community, and who within the parish lives within such areas?

In the recent past, such decisions were often made based on a best guess of what was happening within a region, and these decisions were often contentious. What if you could assist your Diocese or a Parish within the Diocese in quantifiably answering these types of questions? Each of these questions and many more are currently being answered with the help of computerized mapping technology. GIS has been around for over 40 years, but has become affordable to the Church only within about the last decade. Now the technology is available to all Dioceses and Parishes over the internet. The only thing you need is access to the web and the ability to link YOUR data to data that is already available from other sources. The U.S. government, and most state and local governments have been implementing GIS since the early 1990's. Data has been developed that shows the locations of populations, along with demographic

statistics of those populations to a fairly detailed level. Census data, collected every ten years, is available in a format that is compatible with these systems.
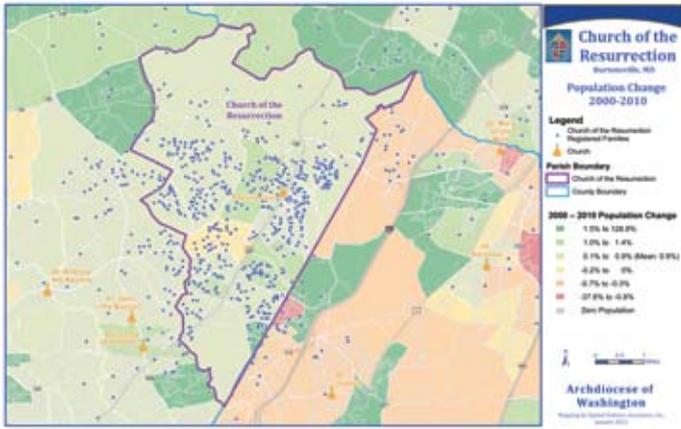
Population statistics, income statistics, race characteristics, and much more are free for the asking. Property ownership data from local jurisdictions, including assessment data and information on the types and quality of homes within an area is often available as well. Aerial imagery is available that visually depicts the level of development in a region, along with other characteristics such a locations of roads, rivers, mountains, and other physical characteristics that may impact the way individuals interact with one another.
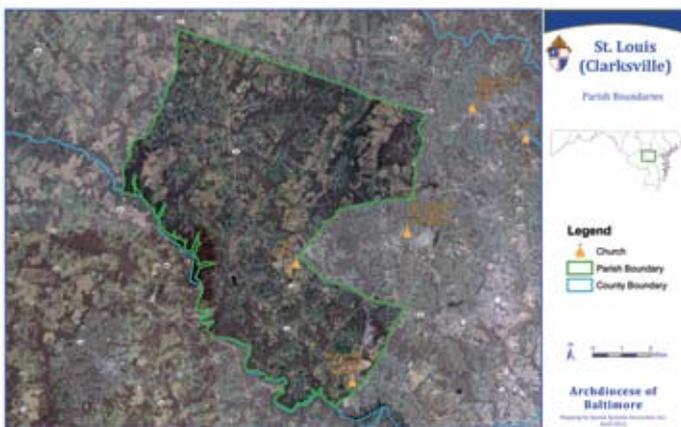
Combine this type of data with your data on registered families, registered students, addresses of families in need, etc. and you have a new information system that will assist Dioceses and Parishes in their efforts to reach out to the local community.

In addition to this use of mapping technology, GIS is now being used to manage and control the operational cost of running parish facilities (scheduling rooms, minimizing energy and water usage, controlling the indoor environment of facilities), managing parish resources, even managing the local Parish or Diocesan cemetery!

Every one of these applications can be handled by the same computer and software technology—generally referred to as GIS. A single computer system, single database of information, and single generic application technology is used to answer this assortment of questions.

A presentation and demonstrations of how this technology has been used in Dioceses and Parishes will be provided at the upcoming DISC conference in Arlington, Virginia in early August of this year. All are invited to come, listen, and see examples of how GIS can be helpful in answering many of the questions, such as those noted above, that most Dioceses and many Parishes in the country have been asking. Following the conference, regular columns in this publication will showcase on a monthly basis the types of analyses, mapping, and web services that your Diocese or Parish can take advantage of—some without any cost. We hope you will take advantage of these opportunities to learn more about the many uses of computerized mapping within your Church community.

Larry is an active member of the Church of the Resurrection Parish in Burtonsville, Maryland, in the Archdiocese of Washington, D.C. He has been at Resurrection for over 30 years. Larry is the founder and president of Spatial Systems Associates, Inc. (SSA), a GIS implementation and support firm located in Columbia, Maryland (www.spatialsys.com) about midway between Washington, DC and Baltimore along the I-95 corridor. Since its inception, SSA has been supporting federal, state, county, municipal, utility and commercial customers in the use of GIS technology. Services include consulting, data conversion, custom programming, analysis, map production, and internet hosting/customization.

An active member of the Church, Larry has always been interested in the productive use of GIS technology for the benefit of the faith. At Resurrection, Larry is currently serving on the Liturgy Committee, is a regular lector, served eight years on the parish council, is a member of the Knights of Columbus, and is a participant in the Parish's Haiti committee. Larry also serves on the Washington Diocesan Haiti committee, and has provided consulting services for the US Conference of Catholic Bishops (USCCB), Catholic Relief Services (CRS), and several regional, parish-based Haiti committees. Larry has traveled to Haiti often over the last ten years in support of many mission efforts. Larry utilizes both his engineering and computer skills to assist the various organizations in completion of their ministries, including development of water projects, sanitation projects, construction of churches and schools, deployment and support of computer technology, and deployment of solar systems to provide electricity.

Larry has been applying GIS technology to the benefit of USCCB, CRS, several dioceses, and several parishes over the last 15 years. As the leader of SSA, Larry is very familiar with the variety of GIS technologies available on the market today, the variety of datasets that are available, and the possible uses of GIS within the Church community.