



**Maryland State Geographic
Information Committee**



Metropolitan Washington Council of Governments
Serving the National Capital Region



Strategic Plan April 29, 2005

Geographic information (spatial data) is a capital asset of the State of Maryland, as real and vital to continuation of government operations as physical properties or professional and technical personnel. It is utilized by federal, state and local government agencies as well as the private sector. Geographic information is also a costly asset, the value of which is realized by many, but not all, agencies that exploit it for making informed decisions.

Geographic Information Systems (GIS) are powerful analysis and decision-support tools that integrate diverse spatially referenced databases to help users understand relationships among social, economic, environmental and demographic factors. GIS is used to assist multi-disciplinary professionals in collectively applying their knowledge to solve complex program and policy issues.

Numerous Maryland State and local government agencies have successfully implemented GIS technology and built complex spatial databases. Informed decision-makers recognize that the information and analyses tools provided by GIS technology are essential to effectively address their required mandates and complex decisions.

We are challenged to make these complex systems and data sets available and easy to use by an even wider variety of users. With the explosion of Internet usage, coupled with Maryland's commitment to *e-government* solutions and data availability, the demand for graphic representation of data will surely increase. A popular phrase among federal agencies is "*You can't have e-government without g-government*" meaning GIS.

While relatively few state and local government agencies have dedicated GIS staff, many professionals use GIS as part of their daily business and some have used it effectively for more than two decades. Virtually *all* agencies collect geographically referenced data and can benefit from its use. It is imperative to coordinate among agencies engaged in automated mapping, geographic data collection, and development of GIS.

State agencies recognized early the important benefits derived from coordinating GIS development efforts among programs and activities. For more than twelve years, voluntary organizations such as the Maryland State Geographic Information Committee (MSGIC) and ESRI User Groups have provided an informal, proactive and effective forum for coordinating the use and development of GIS technologies among State and Local government agencies.

Strategic planning has provided MSGIC a valuable framework for actions and policies. In 1993, and 2000 MSGIC organized Strategic Planning Workshops to develop a shared vision of GIS development in the State of Maryland.

Today MSGIC is faced with new challenges including vertical data integration and centralized GIS resource management. The development of the Maryland Mapping Resource Guide (MMRG) and Maryland Emergency Geographic Information Network (MEGIN) web-based “portals” into the State’s data and processes elevates the expectation that spatial data will be available on the Internet in easily usable applications that parallel the federal National Map and Geospatial One Stop (GOS). These initiatives inherently assume that data and technologies will be utilized not only by agency staff, but citizens as well. Citizens have a higher degree of technological capability and now, more so than ever before, are demanding that the State’s processes become open, accessible, and interactive at *their* convenience. The challenge of putting data and technology “out there” for this new array of users will demand that agencies focus on issues of data quality and system interoperability that were not previously a consideration.

The rapid change of information technology challenges state and local government to respond with innovative solutions in spite of limited resources. MSGIC members have experienced these increasing demands, and recognize that a renewed focus on foundational issues is needed. Interoperability, standardization and coordination activities must be stepped up to meet these expectations. Spatial data must be available, and it must be shared for better decisions to be made.

In April 2005, MSGIC conducted a Strategic Planning Workshop with participation by State agencies, local agencies, federal agencies and the private sector.

The voluntary nature of MSGIC cannot provide the cohesiveness and the energy required for responding to the significant array of tasks and issues that evolve around GIS within Maryland. Dedicated staff are needed to coordinate and support these initiatives which must be more openly embraced, recognized and directly supported by the IT organizational hierarchy within Maryland state and local government. It was generally felt that by remaining outside this structure, GIS growth and development have been limited, and initiatives have not been fully acknowledged or supported by management and IT decision makers.

It was recognized that the purely volunteer nature of MSGIC and the commingling of state and local members has led to a declining level of participation over the past five years, particularly with regard to State agencies. Additionally GIS resources have grown within the state such that regional users groups and consortiums have reached sufficient mass to begin meeting and coordinating on their own issues. While MSGIC has maintained contacts with these regional groups, the perception persists that the state and local organizations are not coordinating as well as possible and that the central Maryland GIS capabilities are not consistent with the western and eastern Maryland needs and concerns.

MSGIC must examine alternative organizational structures to effectively move GIS into the mainstream of Maryland information technology. In the short term, MSGIC must be the vehicle from which a new structure emerges. MSGIC must broaden its participation base and give thorough consideration to the range of organizational alternatives that

might meet future needs. An appointed statewide GIS coordinator is recommended. MSGIC will begin lobbying efforts to further the knowledge of GIS at political levels among elected officials within Maryland. Ideally, MSGIC would continue as a coordination and support organization for the statewide authority.

The mission and responsibilities of the subcommittees should be adjusted to meet ongoing and specific project needs. MSGIC should also explore the use of specific project-based working groups that have a limited focus and life cycle. These working groups should be empowered to fully explore issues, make recommendations to the standing subcommittees and decision-making body. As they resolve issues and institutionalize solutions, their life cycle should end, and others formed as issues and requirements change. This type of broader organizational structure will ensure that all groups have the opportunity to influence the direction and substance of future geographic information programs and policies.

MSGIC cannot succeed without active participation of its members. It is imperative that members see a necessity to participate and that subcommittees create measurable product. It is also imperative that individuals newly entering the Maryland GIS community become active within MSGIC.

Workshop issues related to data development, data sharing, data standards, and data utilization. Much of MSGIC's attention in previous years has been on data, but an expanded agenda was presented, including:

- Increased cooperation between state and local partners in creating data at a mutually acceptable scale, and how to fund these efforts in a sound and equitable manner.
- A prioritized effort to focus on production and distribution of the Federal Geographic Data Committee's seven Framework base data layers (at a larger scale than is currently available) through the development of the Maryland Geospatial Data Sharing Standard (MGDSS). This standard will be developed in coordination with the Pennsylvania standard (PGDSS).
- Continue work and resource support for the statewide centerline project underway with the Maryland State Highway Administration (SHA).
- Developing a routine data maintenance model where sustained maintenance is appropriately supported and funded.
- Implementing a Clearinghouse, where data can be centrally accessed over the Web is fundamental in making GIS a more functional tool for a broader array of users.

It was clear that the time has come for all levels of Maryland government to begin defining GIS data development and stewardship as a capital asset activity. In this way, these projects can be more appropriately funded as a capital expenditure instead of as an operational expense. Agencies should also be able to fund ongoing maintenance in this way.

As GIS technology becomes more broadly available to a wider array of users, demand for more training, and the need for a better understanding of the technology and issues related to it will be the driving forces in whether or not this technology is utilized optimally throughout the state. Responding to the educational demands of a broad clientele will be a primary challenge for MSGIC. MSGIC does not need to provide all of the training for these groups, but it does need to serve as a coordinating body to ensure that affordable training becomes available for all of the different types of users.

The importance of developing appropriate programs (demonstrations, examples, “quick hits”) for politicians, top level leaders, directors and managers was by far the strongest point of consensus among workshop participants. Without a better understanding of the power and potential of GIS among these decision-makers, there is no way to achieve either financial or staffing support for future system and data development initiatives.

The role of MSGIC as a promoter, coordinator, facilitator, advisor (both technical and policy), and partner fits well in its overall mission and objectives, and provides opportunities for MSGIC members to work across department, agency, and jurisdiction boundaries. MSGIC is already positioned to coordinate data compilation and applications development.

In guiding the coordinated development of GIS activities in Maryland, it is important to characterize the current organizational and technical environments. Such characterization provides a focus, with both strengths and limitations, for MSGIC’s planning and for meeting its goals and objectives.

Strengths are factors that MSGIC has in its favor for the effective coordination and development of GIS technology throughout the State. MSGIC should focus on these strengths and use them as a foundation to efficiently implement its plans and activities.

- Existence of trained and experienced staff
- Experience with multiple computer platforms, software and data formats
- A structured approach for information exchange and related data issues
- Digital base maps

Limitations reflect specific technological or institutional factors or conditions that may inhibit the efficient implementation of MSGIC’s mission. MSGIC should eliminate these limitations or reduce their impact to more efficiently implement its plans and activities.

- Non-Participation by key agencies can have a severe impact on MSGIC’s mission
- Participation that varies with current workload and level of interest.
- Lack of coordinated high-level support for MSGIC and State GIS initiatives.

GIS in Maryland is at a crossroads and there are many issues and challenges to be solved before GIS in Maryland is the broad-based, widely accessible tool that it should be.

Critical Success Factors:

- Are new challenges and opportunities approached proactively?

- Is GIS integrated with “main stream” IT technologies?
- Are Standards fully implemented?
- Is there a broader user base?
- Is GIS integrated into Agency Business Practices?
- Is GIS considered on the front end of projects and proposed legislation?
- Is GIS improving “customer service”?
- Does the public find data provided by GIS to be credible?
- Is there a raised level of awareness, appreciation, and demand for GIS within and among management levels of government?
- Has use of GIS increased as a fundamental part of people’s jobs?

Strategic Goals:

1 Year

- Recognized statewide GIS authority.
- Increased participation in MSGIC from state and federal agencies.
- Yearly needs assessment and Implementation Plan update.
- State level COMAR GIS spending audit.
- Populate MMRG with data and applications entries.
- Increase political lobbying efforts for GIS.

MSGIC’s Executive Committee will make recommendations to the Department of Budget and Management for implementation of a new state GIS strategy.

- Appendix A MSGIC Implementation Plan.
- Appendix B Maryland Geospatial Data Sharing Standard (MGDSS).
- Appendix C NSGIC publication, “Fifty States Involved and Contributing to the NSDI”.
- Appendix D State of Maryland 2006 Information Technology Master Plan.
- Appendix E RAND publication, “Mapping the Risks”.
- Appendix F Data Access Decision Tree for Critical Infrastructure Data.