

EXECUTIVE SUMMARY

BUSINESS PLAN FOR THE GEORGIA GIS COORDINATING COMMITTEE

This Executive Summary provides an overview of the Committee's three-year Business Plan that establishes the rationale for Georgia's enhanced investment in GIS and defines a comprehensive work program for the GIS Coordinating Committee.

Prepared by:

The Georgia GIS Coordinating Committee (GISCC)

September 1, 1999

INTRODUCTION

Since the mid-1980s, GIS (Geographic Information Systems) has become an essential and valued tool for information management and decision support throughout all levels of government and private business. In this relatively brief time, GIS and related spatial technologies have already delivered profound benefits to these users. Organizations throughout the state are adopting GIS at an accelerating rate and making significant investments in GIS development. In response to this trend, Georgia established the GIS Coordinating Committee (GISCC) to lead the effective coordination of state GIS activities and resources. Through this committee, Georgia can leverage public and private investments and capitalize on opportunities for applying leading edge technology to real problems.

Georgia, the fourth fastest growing state, has experienced unprecedented population and economic growth in the 1990s. As the state enters a new century, it faces many social and economic issues brought about by this success. To resolve these issues, Georgia must employ technologies that can effectively analyze, evaluate, and provide tools on which to base major decisions. The ability of GIS technology to integrate, analyze, and present information from diverse sources makes it extremely valuable to address key state strategic priorities.

How GIS Addresses Key State Strategic Priorities

| | |
|---|--|
| Smart Growth/Urban Sprawl | → Providing maps and geographic information to monitor land use and growth, test development options, predict impacts, and support decision-making. |
| Transportation | → Support for transportation planning, design, and ongoing maintenance and management of the state's transportation infrastructure. |
| Economic Development | → Promoting desirable and sustainable development with sound geographic information available for prospects worldwide and tools to assess suitability for optimal site location and to provide sophisticated marketing analysis for new and existing businesses. |
| Water Quality and Environmental Protection | → Environmental impact analysis, support for effective regulatory operations, and programs for long-term sustainability and environmental quality. |
| Emergency Planning and Response | → Risk assessment, preparation of emergency and disaster plans, and operational support for emergency response. |
| Quality Education and Research | → Planning for local schools, allocation of educational resources, and a strong role in research and higher level education, as well as K-12 educational programs. |
| Property Management and Equitable Taxation | → Mapping and management of private and public property to provide a basis for equitable and consistent taxation, efficient operations, effective local planning, and recovery of unreported taxable events such as timber harvesting. |
| High Technology Industry Initiatives | → Capitalizing on the benefits of a growing GIS service industry adding over \$100 million per year to Georgia's economy. |

GIS provides a new method of doing business and a powerful means of meeting the needs of both public and private organizations. With sufficient coordination and planning, investments in GIS implementation can be spent wisely, to the benefit of a large community of users, minimizing redundant expenditures and reducing duplication of effort. This is a primary goal of the GISCC.

This Executive Summary provides an overview of the Committee's three-year Business Plan that establishes the rationale for Georgia's enhanced investment in GIS and defines a comprehensive work program for the GISCC.

THE GISCC ROLE AND MANDATE

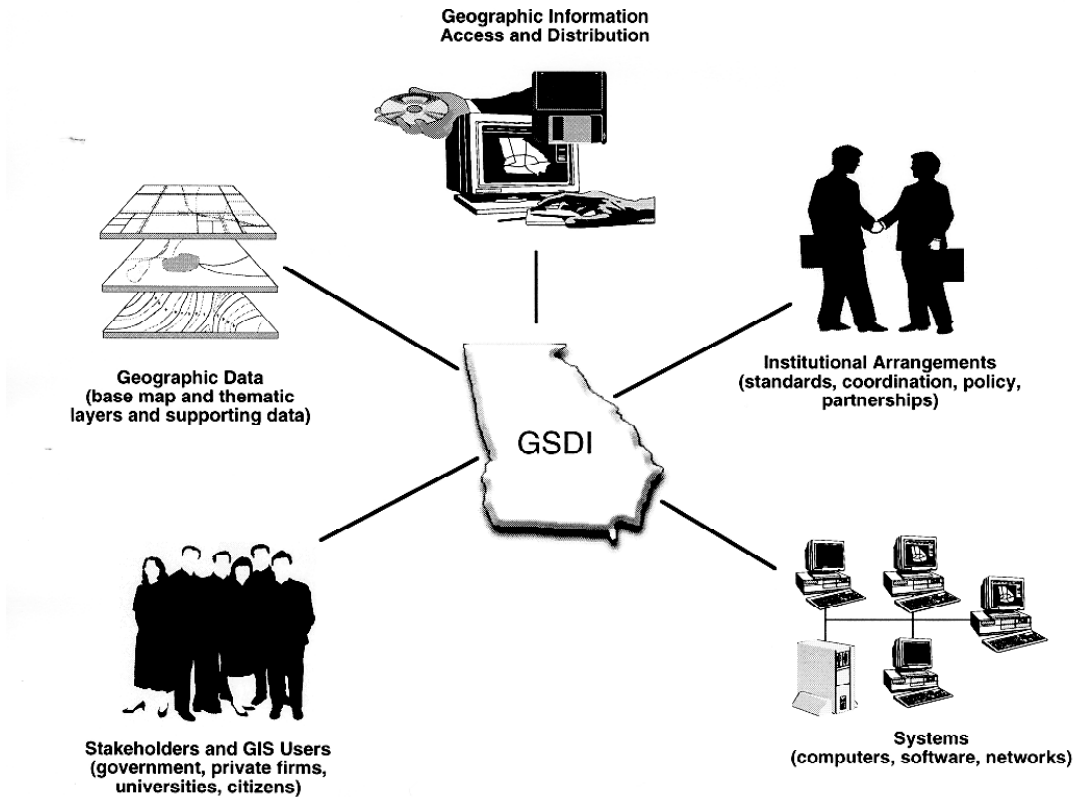
The Information Technology Policy Council (ITPC) officially formed the GISCC in July 1998. Its stated purpose is, "to provide a more efficient and effective framework for the planning, budgeting, acquisition, and utilization of all State GIS resources."

Committee members represent all major groups that have a stake in GIS development and use in Georgia. These include state, federal, and local government; regional agencies; universities; private industry; professional associations; and citizens. It has been structured to promote collaboration to the benefit of all stakeholders.

During its first year of operation, the GISCC focused on strategic planning and continued efforts to complete the state's first common base map, initiated by its predecessor advisory committee. The GISCC also provides a forum for interagency coordination and cooperation. It operates as a true partnership to advance effective GIS use and to help its stakeholders realize the benefits that the technology offers for delivering efficient services, making more effective decisions, and ensuring Georgia's competitive position in the global marketplace.

An important role of the GISCC is to lead and encourage continued development and use of the **Georgia Spatial Data Infrastructure (GSDI)**. The GSDI is modeled after the National Spatial Data Infrastructure (NSDI) established by President Clinton's Executive Order 12906 signed in April 1994. The NSDI is defined as the *"technology, policies, and people necessary to promote GeoSpatial data sharing throughout all levels of government, the private and non-profit sectors, and academia."* The term "infrastructure" is key to the understanding of GSDI. Infrastructure is defined as the "underlying base or the basic facilities, equipment, services, and installations needed for the growth and functioning of a community or organization." In the same manner that roads are vitally important to the State's infrastructure, the data, systems, people, and institutional arrangements that comprise the GSDI provide public and private organizations with the foundation for progress.

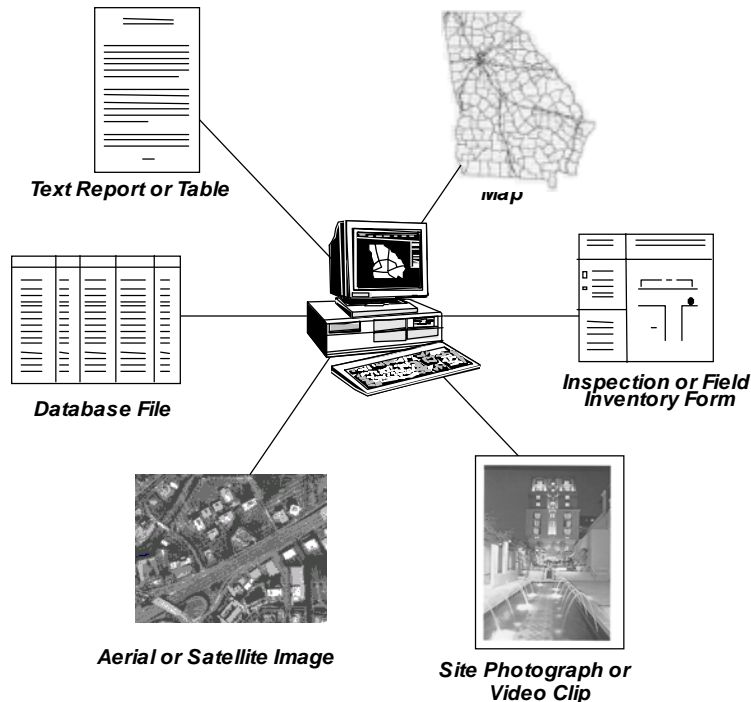
Georgia Spatial Data Infrastructure (GSDI)



THE POWER OF GIS TECHNOLOGY

It matters where resources and facilities are located and how they relate to each other. Geography and demographics are a dominant component of state business. Explicitly or implicitly, every state agency relies on geography to support its day-to-day operations, decision-making, and planning. It is widely accepted within the GIS community that almost 80 percent of the information collected by government agencies, utility companies, and commercial firms have a geographic feature. These organizations require accurate answers quickly to fundamental locational questions that impact operations and decision-making in the office and in the field.

GIS as Integrator of Information



Simply put, GIS technology extends Georgia's reach and ability to use complex information about the land and its resources. GIS software has the ability to not only store digital maps but also access diverse types of data and records that have a spatial component. GIS provides powerful capabilities to query and analyze geographic information, to answer important questions, examine patterns and trends, and support day-to-day operations.

GIS is a comprehensive information technology that cuts across disciplines and departmental lines through its ability to manage data of all types based on common locational information. It acts as an integrator of information from many sources and streamlines many technology-based processes.

GIS TECHNOLOGY IN GEORGIA

GIS technology is used extensively by many state government agencies, all regional development centers, and at least 40 Georgia counties and cities. Available surveys indicate that well over \$20 million is invested annually in GIS operations and development by State agencies. In addition, local government and private companies have spent at least \$50 million on GIS technology in the last three years. The following examples serve to illustrate how GIS technology has made or is positioned to make an important impact on key state initiatives.

- GIS is providing the GDOT with vital capabilities for mapping and information management. GIS supports project planning, construction, traffic and facility management, emergency response,

and maintenance.

- The Atlanta Regional Commission and other RDCs use GIS as an enterprise resource to manage transportation and environmental planning, public facility inventory, and smart growth initiatives.
- Since 1990, the Department of Community Affairs (DCA) and RDCs have been using GIS data to support comprehensive planning for local governments. Land use maps and critical community facilities have been compiled statewide.
- The Georgia Resource Center, set up and managed by Georgia Power in partnership with the Georgia Department of Industry, Trade, and Tourism, is using GIS technology as a platform to assist new and existing companies and community economic development projects.
- The State DHR uses GIS as an analysis tool to reveal undiscovered patterns or trends in the health of Georgia citizens. These discoveries help guide community health policy, assessment, and delivery.
- The State DNR has implemented GIS applications in its River Care 2000 program, the state's first comprehensive look at its rivers.
- The Georgia Emergency Management Agency (GEMA) has deployed GIS technology to prepare emergency mitigation plans.

The Georgia GIS Data Clearinghouse, formed in 1996, has compiled a wealth of information through partnerships between state government, federal agencies, and private firms. The Clearinghouse has instituted extensive programs for access to this data and continues efforts to enhance products and services to make the data widely available to all users. The GISCC, in coordination with the Clearinghouse, is helping to build the **Georgia Spatial Data Infrastructure (GSDI)**.

Well-coordinated GIS technology can deliver the following benefits across all strategic initiatives.

Overall Effectiveness of GIS

| |
|--|
| <ul style="list-style-type: none"> • Better Decision-making and Service to citizens by providing staff and management with the information needed to respond quickly to problems or concerns, offer quality service, and consider all pertinent issues and impacts. |
| <ul style="list-style-type: none"> • Partnerships and Resource Sharing using GIS to leverage partnerships and encourage joint projects and funding, sharing of systems and data, and encouraging uniform practices based on sound standards. |
| <ul style="list-style-type: none"> • Productivity Gains by greatly reducing labor and cost in accessing information, integrating multiple data sources, performing complex analyses, and presenting information in map form. |
| <ul style="list-style-type: none"> • Cost Avoidance through more effective management of transportation and utility infrastructure (lower maintenance costs), lowering damage from natural disasters through better planning, and protecting organizations from costly legal or regulatory challenges by providing critical information. |
| <ul style="list-style-type: none"> • Increased Information Security and Integrity through the automation of geographic information on maps and records, thereby providing protection from catastrophic loss and creating an environment where information can be economically updated and maintained. |

CURRENT CHALLENGES FACING THE GISCC

With all the success enjoyed by Georgia organizations in the adoption and use of GIS, serious obstacles exist that will limit its future use and benefits. The GISCC is intent on establishing policies and instituting programs that will create an environment where GIS use will flourish by addressing these issues and opportunities and others detailed in the Business Plan:

- **Georgia needs a more formal GIS Office** with management and staff to oversee GIS development efforts and **to support and execute state plans, policies, and programs.**
- The current information technology planning process, overseen by the ITPC, does not include **adequate guidelines for GIS development projects within agency plans.**
- Despite great strides in state-level cooperation, too many cases remain where **redundant and inconsistent efforts result in inefficient use of resources.**
- Opportunities and needs exist to **enhance the understanding and role of GIS for senior officials** and management. This inhibits its adoption and limits capitalizing on the opportunities that GIS provides.
- The State needs to accelerate revision of its mapping standards to adequately reflect today's digital environment. The GISCC needs to lead this process to promote the exchange of information and to provide consistent **guidance and support for GIS development at the local level.**
- Many types of **important GIS data** (e.g., high-resolution imagery and common base map) **are too expensive for one agency** to acquire, but become affordable through collaboration and partnerships. The GISCC has made impressive progress in developing common statewide GIS databases, but this effort needs to be maintained and enhanced to protect the investment and serve current and future needs.
- **Electronic access to public GIS data needs to be enhanced** to serve a growing base of users at all levels (decision-makers, analysts, and citizens).

GISCC PROGRAM AREAS AND GOALS

The Business Plan provides detailed information on GISCC work elements that form the basis for specific projects for GISCC members and its stakeholders. The work elements are organized under four Program Areas, each of which has clear goals explained on the next page.

GISCC Program Areas

| Program Area 1: ROLES, POLICIES, AND FUNDING | |
|--|--|
| <p><u>Description:</u> This program area focuses on refining the current organizational structure and preparing the GISCC and stakeholder organizations to:</p> <ul style="list-style-type: none"> Clarify roles and relationships Establish a firm basis for the GISCC mission Carry out GIS coordination and implementation activities. <p>Outcomes include institutional standards, policies, and planning processes that encourage information and resource sharing among state agencies and other stakeholders. This program area also covers actions to secure funding for GIS activities and to ensure the long-term financial health of the GISCC and the GIS Data Clearinghouse.</p> | <p><u>Major Goals:</u></p> <ol style="list-style-type: none"> 1.1 Support the achievement of state plans, policies, and programs. 1.2 Carry out institutional improvements that strengthen the organization. 1.3 Secure stable long-term funding to support the implementation of the GSDI. 1.4 Establish a process for GIS-related policy creation and formulate important policies. 1.5 Support State IT Departmental planning and budgeting. 1.6 Develop and implement a routine business planning program. |
| Program Area 2: BASE MAP DEVELOPMENT (FRAMEWORK) | |
| <p><u>Description:</u> The GISCC, working with stakeholders, will clearly identify short- and long-term geographic data needs and will establish standards for data content, quality, and format. The overall intent is to complete the development of important data themes and to ensure that the data meets proper standards for effective use.</p> | <p><u>Major Goals:</u></p> <ol style="list-style-type: none"> 2.1 Monitor and coordinate state GIS activities. 2.2 Develop standards and policies that support the GSDI and statewide collaboration. 2.3 Define, plan, and develop state Framework data layers. 2.4 Develop technologies within the GSDI that maximize data sharing and use. |
| Program Area 3: STEWARDSHIP AND DISTRIBUTION | |
| <p><u>Description:</u> Based on a sound definition of data stewardship, the GISCC will create and support sound policies and procedures for maintaining data and providing access to it. This will include the identification of data maintenance and procedures to ensure compliance with content, quality, and format standards and the deployment of mechanisms for distributing the data.</p> | <p><u>Major Goals:</u></p> <ol style="list-style-type: none"> 3.1 Determine and establish database stewardship roles and procedures. 3.2 Promote data maintenance and identify implementation strategies for data integration. 3.3 Enhance procedures and mechanisms for data distribution. |
| Program Area 4: OUTREACH AND EDUCATION | |
| <p><u>Description:</u> The value of GIS increases as its use becomes more widespread. To encourage communication, collaboration, coordination, and heightened awareness of GIS, the GISCC will design and implement programs for outreach and education.</p> | <p><u>Major Goals:</u></p> <ol style="list-style-type: none"> 4.1 Develop an education program to inform management and key decision-makers about the capabilities of GIS and GISCC successes. 4.2 Promote the integration of GIS curriculum in the state's educational system. 4.3 Develop a communication program that clearly conveys GISCC's mission, goals, and initiatives. 4.4 Co-host a statewide GIS conference. |

PROPOSED BUDGET

The Georgia GIS Clearinghouse and base map have been an extremely successful investment for the state. Currently these efforts are funded through initiatives of the ITPC. The base map has received its funding through an allocation from the state with matching funds from state and federal agencies and private cooperators. It is heavily dependent on state agencies' directives and funding priorities. This effort is currently in year two of a three-year program and needs reliable funding for the future. The Clearinghouse is budgeted through the ITPC with services provided by Board of Regent institutions under contract with the Office of Planning and Budget. The GISCC, Base Map, and GIS Data Clearinghouse do not have a regular budgeting process.

Details on the proposed budget to carry out the GISCC work plan and to continue support and enhancement of services for the Georgia GIS Data Clearinghouse are provided in the *Business Plan*. The table below summarizes the proposed budget by program area.

Summary of State Budget Needs for the GISCC and the GIS Clearinghouse

| Budget Category | Fiscal Year 2000 | Fiscal Year 2001 | Fiscal Year 2002 | Fiscal Year 2003 | TOTAL |
|---|--------------------|--------------------|--------------------|--------------------|---------------------|
| Program Area 1: Roles, Policies, and Funding | | | | | |
| Coordination and Management of the GISCC and GSDI | 100,000 | 104,000 | 108,150 | 112,500 | \$ 424,650 |
| GIS Operational Budget for Planning and Standards Development | | 30,000 | 30,000 | 30,000 | \$ 90,000 |
| Program Area 2: Base Map Development (Framework) | | | | | |
| Core Base Map Completion plus new digital imagery (DOQ) | 1,800,000 | | | | \$1,800,000 |
| Enhancements to Core Base Map | | 1,150,000 | | | \$1,150,000 |
| New Framework Base Map Layers | | | 900,000 | 900,000 | \$1,800,000 |
| Program Area 3: Stewardship and Distribution | | | | | |
| GIS Data Clearinghouse (data distribution) | 375,000 | 500,000 | 520,000 | 540,800 | \$1,935,800 |
| Clearinghouse and institutional data stewardship operations | | 150,000 | 156,000 | 162,250 | \$468,250 |
| Program Area 4: Outreach and Education | | | | | |
| Training and education | | 20,000 | 20,000 | 20,000 | \$60,000 |
| Publications and outreach | | 40,000 | 40,000 | 40,000 | \$120,000 |
| Travel for GISCC | | 10,000 | 10,000 | 10,000 | \$30,000 |
| TOTAL | \$2,275,000 | \$2,004,000 | \$1,784,150 | \$1,815,550 | \$ 7,878,700 |
| Funds Budgeted | \$1,075,000 | | | | |
| Shortfall | \$1,200,000 | \$2,004,000 | \$1,784,150 | \$1,815,550 | |