INTERIM PROJECT REPORT
September 15, 2006

NSDI Cooperative Agreements Program
Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative

Center for Geographic Information Sciences
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NSDI Cooperative Agreements Program

Fifty States Initiative: Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative

Interim Project Report

Cooperative Agreement Number: **06HQAG0100**

Project Title: **Strategic and Business Plan Development for Maryland in Support of NSDI Future Directions 50 States Initiative**

Project Start and End Dates: **March 16, 2006 – March 15, 2007**

Lead Project Organization: **Towson University Center for GIS Maryland State Geographic Information Committee**

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USGS Mapping State Liaison: **Roger Barlow**

Summary of Project Activities

Through a 2006 National Spatial Data Infrastructure (NSDI) Cooperative Agreement Program (CAP) grant, a partnership of the Towson University Center for Geographic Information Sciences (CGIS) and the Maryland State Geographic Information Committee (MSGIC) has engaged stakeholders in Maryland to develop a Strategic Plan and a Business Plan for GIS Coordination in Maryland. This interim report describes project activities and their level of success to date.

Objectives

Work throughout the first half of the project period focused on Strategic Planning for GIS Coordination in Maryland. The plan covers the following critical items:

- Creating a statewide office to coordinate GIS resources.
- Strengthening the effectiveness of MSGIC, an all-volunteer coordinating committee.

- Improving participation in and contribution of statewide geospatial information activities among all stakeholders.
- Gaining recognition from state level governmental and legislative entities.
- Improving geospatial data discovery, access, and use.
- Increasing participation in national geospatial data programs.
- Working toward sustainable funding mechanisms.

Key Accomplishments as of August 2006

I.   Prior to forming a Strategic Planning Committee (SPC), project staff designed a plan for committee composition and size, established guiding principles, and developed a workable timetable. Pre-planning enabled project staff to go into the first SPC meeting prepared with a structure for the planning process, which allowed committee members to focus more quickly on critical issues. During the pre-planning process, staff accomplished the following specific tasks.

1. Set up a communications portal for SPC members through MS SharePoint. The portal is accessible by login and allows authorized users to actively participate in the document writing and editing process; post and receive announcements; post and view presentations; and access a comprehensive contact list.

2. Drafted a charter for the Strategic Planning Committee that states the mission, size, composition and components, goals, objectives, tasks, and timetable for the strategic and business plans. The charter is included in this report as *Appendix A.*

3. Drafted a Communications Plan that covers information dissemination, branding, and marketing. The Communications Plan is included in this report as *Appendix B.*

4. Created several iterations of a Maryland Spatial Data Infrastructure (MSDI) logo.

5. Created a handout of information about GIS Coordination in Maryland. The handout was distributed via the MSGIC booth at the Maryland Association of Counties (MACo) conference that was held in Ocean City on August 15-18, 2006. The handout is included in this report as *Appendix C.*

6. Identified the GIS stakeholder agencies and organizations in Maryland, along with the associated individuals who have an interest in the final outcome of the project. From that list of individuals, project staff identified a diverse group that is inclusive of government, private, and non-government organizations in a broad geographic area to represent their organizations' interests and needs as members of SPC. Suggestions of other potential members were also solicited to ensure equitable representation.

7. Issued formal invitations to the heads of agencies, organizations, departments, and divisions to request permission for the selected individuals to serve on the committee or for additional or alternate representatives.

II.   Communication and outreach are an essential component of Maryland's move toward improved coordination. The following outreach activities have occurred as part of this project.

1. As of August 2006, the project team coordinated and hosted two Strategic Planning Committee meetings. The minutes of both meetings are attached to this report as *Appendix D.*

2. Multiple meetings have occurred with executive leadership in Maryland to generate awareness and support for GIS coordination in Maryland and the need for a centralized office and/or staff. Individuals include:

   a. Ellis Kitchen, State CIO (Department of Budget and Management);
   b. Chris Geldart, Assistant Director of Homeland Security (Governor's Office of Homeland Security);
   c. Neil Peterson, Administrator, MD State Highway Administration;
   d. Raja Veeramacheneni, Director, Planning & Preliminary Engineering, MD State Highway Administration;
   e. John Droneburg, Director, Maryland Emergency Management Agency;
   f. C. Ronald Franks, Secretary, MD Department of Natural Resources;
   g. Frank Dawson, Assistant Secretary, MD Department of Natural Resources;
   h. Dr. Mary Livers, Deputy Director Operations, Department of Public Safety and Corrections;
   i. Gordon Deans, Executive Director, Emergency Numbers System Board;
   j. James Robey, Howard County Executive;
   k. Wilson Parran, Calvert County Board of Commissioners.

3. Multiple presentations were made to GIS user groups across Maryland to generate awareness and support for GIS coordination in Maryland, including:

   a. Eastern Maryland ESRI User Group (June 28, 2006);
   b. MSGIC Summer Quarterly Meeting (July 19, 2006);
   c. Western Maryland ESRI User Group (July 28, 2006);
   d. Central Maryland ESRI User Group (August 30, 2006).

4. Coordination was achieved with the Maryland State Highway Administration (SHA) effort to create a Federated Street Centerline layer that enables coordination between SHA and local county GIS offices.

5. Coordination was achieved with the MSGIC effort to establish a Cooperative Agreement to purchase Orthoimagery for the entire state of Maryland. This effort currently involves contribution and partnership between federal, state, local, private, academic, and non-profit organizations.

6. Project staff redesigned Maryland's GIS Web Portal, which can be found at http://www.MarylandGIS.net, to include current information about GIS coordination activities. This Web site is providing public visibility for Maryland's *Fifty States Initiative* efforts and serves as a means for stakeholder input.

III. The project team wrote a draft Strategic Plan, which is included in this report as *Appendix E.*

Successes

1. All agencies and organizations invited to be members of SPC replied positively, for a participation level of 100%.

2. Pre-planning proved to be highly successful relative to streamlining the discussion and strategic planning process. The first SPC meeting provided a forum for input on specific needs, considerations, and next steps. The second meeting focused on primary and secondary items to be included in the strategic plan. During the second meeting, Maryland's willingness to support the plan at least incrementally was made clear.

3. Because they are involved in this project, key individuals in Maryland agencies and departments who are not schooled in GIS use are gaining a broader understanding of the functions and importance of GIS in all levels of government. The need for and the potential benefits of statewide coordination that is at least partially funded by the state and supported more actively by state leadership is being clearly described during SPC meetings. The prevailing attitude about achieving statewide coordination is more favorable now that the issues are better understood, and MSGIC's priorities are being recognized to a broader audience.

4. The State CIO has identified GIS Coordination and establishing data standards (including GIS) as formal IT Priorities for Maryland during 2008. The "State of Maryland Information Technology Master Plan 2008" can be found at:

http://dbm.maryland.gov/dbm_publishing/public_content/dbm_search/technology/policyplanning/fy2008stateitmp.pdf

5. Two important data projects in Maryland have played a significant role in illustrating the need for statewide coordination. The Maryland Cooperative Centerline Program is a data sharing process between the State Highway Administration and local governments. The Maryland Statewide Orthoimagery Partnership is an effort to acquire high resolution digital imagery for the entire state that will meet the needs of federal, state, and local government agencies and others within the state. MSGIC, Maryland agencies, TU-

CGIS, and the NSDI/USGS *The National Map Project* all have an active role in these cooperative projects that are recognized as excellent centerpieces around which to build a case for statewide GIS coordination.

6. Towson University and Salisbury University are building a collaborative relationship relative to data stewardship and distribution.

Next Steps

Following SPC approval of a final draft of the Strategic Plan, the Business Plan will be drafted, edited, and approved. The individuals in Maryland government or legislature will be identified who can and will champion the plans and encourage statewide adoption and funding.

The SPC anticipates that the USGS State Liaison will continue to participate in the planning process. At present, this assistance is sufficient.

Project Partners' Response to the Cooperative Agreements Program

Since 2000, CGIS and MSGIC have produced useful GIS and metadata products through a series of USGS/NSDI/FGDC CAP grants. Without the strength of USGS assistance, CGIS and MSGIC would have difficulty continuing their commitment to work toward representing and meeting the needs of Maryland's GIS community, and by extension, the nation's.

Maryland's USGS state liaison, Roger Barlow, has devoted significant energy and attention to the CGIS/MSGIC projects. His input, advice, encouragement, and attention to the current Category 3: *Fifty States Initiative* grant is invaluable. The GIS Coordination project is already well regarded by key agency leaders in Maryland. With their support, the anticipated implementation will advance Maryland's contribution to NSDI and validate USGS funding for the development stage.

Appendix A

Maryland Spatial Data Infrastructure
Strategic and Business Plans for GIS Coordination in Maryland

Strategic Planning Committee Draft Charter

Introduction

A well-coordinated, concerted effort inclusive of the private sector, utilities, academia and all levels of government is needed to leverage resources, minimize redundancies, and collaboratively solve problems to achieve the National Spatial Data Infrastructure's (NSDI) vision of assuring that spatial data from multiple sources are available and easily integrated. One objective of the NSDI's Future Directions Action Plan is the *Fifty States and Equivalent Entities Involved and Contributing to the NSDI Plan* (Fifty States Initiative). The initiative recognizes that building the NSDI requires effective statewide coordination mechanisms. Via a United States Geological Survey/Federal Geographic Data Committee (USGS/FGDC) cooperative agreement program grant, the Fifty States Initiative is advancing the development of geospatial strategic and business plans that will create and implement statewide coordination councils.

The Maryland State Geographic Information Committee (MSGIC) officially coordinates GIS activities for agencies in the Executive Branch of Maryland's government. Significant MSGIC collaborations include partnering with the Towson University Center for Geographic Information Sciences (TU-CGIS) on four previous USGS/FGDC cooperative agreement grants to advance Maryland's role in the NSDI. The Fifty States Initiative program affords the timely opportunity to define the framework for improving GIS coordination by offering a specific plan that suits all of Maryland's GIS stakeholders and also represents a significant cost-saving for the state. The MSGIC/TU-CGIS partnership was awarded a grant for FY 2006 to develop the strategic and business plans for GIS coordination in Maryland.

This Charter defines the vision and mission for the project, as well as the structure, membership, and activities of the committee charged with developing the strategic and business plans. The Strategic Planning Committee is the working group that will meet monthly. The committee includes several *ex officio* members who will serve as advocates and trusted advisors. An executive group charged with promoting the plans to Maryland's legislature is also included in this charter.

Vision Statement

The Maryland Spatial Data Infrastructure (MSDI) Strategic Planning Committee and its *ex officio* and executive groups envision all members of Maryland's geospatial community working together to build an effective statewide spatial data infrastructure that *serves and protects* citizens; diverse stakeholder groups working together to aggregate MSDI into the National Spatial Data Infrastructure (NSDI); and academia,
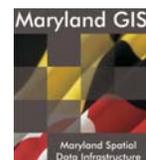
utilities, the private and non-profit sectors, and all levels of government responsibly contributing to Maryland's program.

Mission Statement

The mission of the Maryland Spatial Data Infrastructure (MSDI) Strategic Planning Committee (Committee) is to produce the design for an inclusive statewide GIS coordinating body and to coordinate the partnerships that will accomplish the following objectives as articulated by the National States Geographic Information Council (NSGIC):

- A full-time, paid coordinator position is designated and has the authority to implement the state's business and strategic plans.
- A clearly defined authority exists for statewide coordination of geospatial information technologies and data production.
- The statewide coordination office has a formal relationship with the state's Chief Information Officer (or similar office).
- A champion (politician or executive decision-maker) is aware and involved in the process of coordination.
- Responsibilities for developing the National Spatial Data Infrastructure and a State Clearinghouse are assigned.
- The ability exists to work and coordinate with local governments, academia, and the private sector.
- Sustainable funding sources exist to meet projected needs.
- Coordinators have the authority to enter into contracts and become capable of receiving and expending funds.
- The Federal government works through the statewide coordinating authority.

Duration

The Committee will be in existence from June 2006 through April 2007.

Goals

In response to the federal initiative entitled *Fifty States and Equivalent Entities Involved and Contributing to the NSDI Plan* (Fifty States Initiative), the Committee will create a strategic plan and a business plan for a recognized statewide, authoritative GIS coordinating body that proposes to increase local, state, regional, and federal agency participation in MSGIC; increases executive and budgetary support for GIS in Maryland; and recommends a GIS coordinator position or office that will act either as staff or as the executive director to the coordinating body.

Appendix A

Activities

The Committee will conduct its activities in accordance with this Charter. The strategic planning activities of the Committee shall include, but are not limited to, the following:

- Review the criteria for GIS coordination included in the *NSGIC State Model for Coordination* and NSDI's recommendations.
- Identify and invite members of an Advisor group who have the ability to champion the resulting plan for GIS Coordination in Maryland's legislative bodies.
- Identify alternative organizational structures that could effectively move GIS into the mainstream of Maryland information technology.
- Plan and conduct surveys and interviews with stakeholders to determine their assets, their needs, and their capabilities, relative to GIS.
- Compile stakeholder information into a useable database.
- Obtain and analyze available data on GIS coordination activities in other states.
- Design the structure and plan of a state coordinating body that satisfies the *NSGIC State Model for Coordination* criteria and NSDI's recommendations and is a good fit for Maryland.
- Build upon the existing MSGIC strategic plan, inventory other regional coordinating, collaborating bodies.
- Disseminate the draft design and the development plan to stakeholders and then encourage feedback by conducting focused group meetings.
- Revise the draft design and plan as deemed appropriate based on stakeholder input.
- Maintain accurate records of project expenses.
- Compile and submit midterm and final project reports to USGS as required.
- Submit the plan for GIS coordination in Maryland to the Advisory Board Liaison Executives (ABLE) to disseminate and promote.

Committee Structure and Membership

The working group will be known as the Strategic Planning Committee (SPC). SPC members will be invited by the Chair from among the identified stakeholder group and will comprise a diverse representation of stakeholders from multiple geographies, levels of government, and disciplines. The SPC will consist of 12-15 members and will meet on a monthly basis or as often as the Committee Chair and the members deem necessary to complete the Committee's mission. Members may participate in Committee meetings by means of conference call or similar communications equipment that allows all persons participating in the meeting to hear each other. Such participation will constitute presence in person at SPC meetings.

An *ex officio* group of approximately five members will provide guidance and advice, and serve as trusted advocates in their area of influence. The *ex officio* group will meet on a quarterly basis. An executive group will support the plan and promote it to

Appendix A

Maryland's legislature. The executive group will be briefed by the ex officio group and the SPC Chair and Co-Chair at three intervals throughout the planning process.

Staff support will be provided by Towson University Center for Geographic Information Sciences staff.

Appendix A includes the members list of each committee group and the list of staff support personnel.

Officers

The officers will consist of a Chair and a Co-Chair.

Committee Chair's Responsibilities

The Committee Chair will preside at meetings, set the frequency and length of each meeting, and prepare the agenda of items to be addressed at each meeting. The Committee Chair may invite any persons whose advice and counsel are sought by the Committee to be present at meetings. The Committee Chair may form project teams and/or subcommittees for any purpose deemed appropriate within the Committee's authority and may delegate appropriate power and authority to such project teams and/or subcommittees. The Committee Chair will participate in meetings held by the Committee's Advisor group and will inform the Committee's Advisor group of the Committee's activities, progress, and results.

Committee Co-Chair's Responsibilities

The Committee Co-Chair will assist the Committee Chair as necessary, participate in meetings held by the Committee's Advisor group, and will preside at meetings in the Committee Chair's absence.

Committee Members' Responsibilities

The Committee members will have the following responsibilities:

- Attend meetings as active participants.
- Assist with gathering, compiling, and analyzing stakeholder information.
- Utilize the MSDI collaborative Web site (via MS Sharepoint) to review and edit documents and to communicate with committee members beyond scheduled meeting times.
- Serve on appointed project teams or sub-committees and communicate findings and results to committee members.
- Perform and report on tasks assigned by the Committee Chair.
- Assist with preparing meeting agendas as requested by the Committee Chair.

Appendix A

- Generate and encourage support for the resulting design and development plan for GIS Coordination in Maryland.

Quorum

A quorum for the conduct of business at each meeting will be a simple majority of the committee members.

Appendix A

Committee Membership Lists

Committee Members and their Affiliations/Geographic Area/Expertise

Meeting Schedule: Monthly

1. Matt Felton, Chair (TU-CGIS, University)
2. Ken Miller, Co-Chair (MD DNR, NSGIC, State Agency)
3. David Gillum – (County government, MSGIC, Central Maryland, GIS)
4. Virginia Peterman – (County government, MACo/NACo, MSGIC, Central Maryland, GIS)
5. Warren Campbell – (State Agency, Public Safety, IT)
6. Bruce Eikenburg – (State Agency, IT)
7. Michael Scott – (ESRGC, Eastern Shore, University)
8. Marshall Stevenson (County government, MSGIC, Central Maryland, GIS)
9. Victor Henry (Baltimore Metropolitan Council, Non-Profit Organization, Central Maryland, Data Management)
10. Charlene Howard (MWCOG, DC, GIS)
11. Jim Thomas (DHMH, Central Maryland, GIS)
12. Jack Martin (County Government, IT, MSGIC, Central Maryland, GIS)
13. Shabaz Raza (MDE, State agency, IT)
14. Mike Sheffer (SHA, State agency, GIS)
15. Michel Lettre (MDP, State agency, Planning/Strategic Development)
16. Shawn Wampler (City of Annapolis, Southern Maryland, GIS)

Ex-Officio Members and Their Affiliations/Geographic Area/Expertise

Meeting Schedule: Quarterly

1. John Contestabile (State Agency, Transportation, Procurement, Public Safety, SIEC)
2. Jennifer Gajewski (University, Legislative)
3. Rich Leadbeater (ESRI)
4. Roger Barlow (Federal)
5. Chuck Bristow (MDOT, IT)

List of Possible Candidates for Advisory Board Liaison Executives (ABLE) and their Affiliations/Geographic Area/Expertise

Meeting Schedule: Briefings (3) at Appropriate Intervals

1. Dennis Schrader (Homeland Security, Chair of Governance Work Group)

Appendix A

2. Ellis Kitchen (Chair of ITAC)
3. Marilyn Praisner (MACo/NACo, Technology)
4. Maryland Emergency Management Association
5. MML, Technology
6. Health Advisory panel
7. Fred Smalkin (Chair of Governor's Emergency Management Advisory Committee)
8. DNR and/or MDE
9. Planning Advisory (American Planners Association)
10. Dr. Robert Caret (Coalition of Urban and Metropolitan Universities)
11. Gordon Deans (Emergency Numbers Board)
12. Jeff Edgin (Chair-Elect of MSGIC)

Staff Support
1. Susan Wooden – Secretary
2. Missy Valentino – Technical
3. Gloria Yeatman – Logistics and collaboration

Appendix A

Appendix B

Work Plan

Suggested Work Plan:

1. Committee Charter and Strategic Plan
   a. May
   b. June
      i. MML Conference
      ii. ABLE Briefing (powerpoint and teleconference)
   c. July
      i. MSGIC Quarterly
2. Strategic Plan Process Map
   a. August
      i. MACO Conference
   b. September
      i. Agency legislative initiatives
   c. October
      i. MSGIC Quarterly
      ii. ABLE Briefing (status and possible next steps)
      iii. Investigate executive order or legislation
3. Business Plan
   a. November
      i. Election
   b. December
   c. January
      i. Begin crafting legislation
      ii. MSGIC Quarterly
4. Presenting, Socializing, Engaging
   a. February
   b. March
      i. TUGIS Conference
   c. April
      i. ABLE Briefing
      ii. MSGIC Quarterly

Maryland GIS

Maryland Spatial
Data Infrastructure

Appendix B

Maryland Spatial Data Infrastructure

Strategic and Business Plans for GIS Coordination in Maryland

<u>Communications Plan Draft</u>

> *Inform* to raise Awareness. *Educate* to enable Understanding.
> *Involve* to gain Acceptance.
> *Motivate Action and Support* through Change.
> (paraphrased from http://www.jisc.ac.uk/uploaded_documents/Creatingaplan060603.doc)

Goals and Objectives
1. Inform committee members and stakeholders of progress and results.
    a. Achieve 100% of Committee members using the MSDI portal to receive and communicate announcements, and to edit and contribute to documents and contact lists.
    b. Update the Maryland Mapping Resource Guide Web site to incorporate and disseminate MSDI information.

2. Generate awareness of, support for, and commitment to the project among key decision makers in Maryland.
    a. Raise awareness of the issues among the GIS community and equip them with a consistent message.
    b. Promote enthusiasm for the solution among Maryland's stakeholders.
    c. Persuade each member of each target audience to believe in the plan and promote the final coordination body design.

Target Audience

1. GIS Practitioners
    a. MSGIC
    b. State agency GIS staff
    c. County GIS staff
    d. Municipal GIS staff

2. IT Community
    a. State Government CIOs
    b. Local Government CIOs

3. State, County, Municipal Executives
    a. Members of ABLE group
    b. Secretaries/Directors of state agencies/departments
    c. Chiefs of divisions/units

Appendix B

       d. County and Municipal executives

    4. Elected Officials
       a. Liaison with Maryland legislature via Jennifer Gajewski, legislative contact for Towson University

Branding

1. Create a MSDI logo.
2. Create a Slogan or tagline (See Appendix for brainstorming).
3. Develop brief overview text, i.e., the "elevator conversation" that can quickly inform influential people of the project, its value, and the reason it should be supported.
4. Create a consistent, recognizable design for documents and Web pages.

Key Messages

1. Create a statement of principles and important points for each target audience that should be repeated throughout all or most communications.

2. Produce progress reports.

3. Focus on the who, what, where, when, and why of the issue.

WHO
Primary beneficiaries of the GIS coordinating body include:
1. GIS community in Maryland.
2. State agencies.
3. Local and municipal government.

WHAT the coordinating body will accomplish:

1. Better communication on GIS issues.
2. Cost reduction.
3. Increased efficiency through economy of scale.
4. Authority to engage in contracts.
5. Funding commitment and sustainability.
6. More federal funding by researching opportunities and streamlining the proposal and application processes.
7. Reduction of redundancy, partly by identifying where duplication of effort exists.
8. Conservation of agency staff resources and allowing agencies to focus on their mission.
9. Sharing of resources.
10. Greater collaboration among agencies and organizations.

Appendix B

<u>WHERE</u>
1. Statewide

<u>WHEN</u>
1. Strategic Plan must be drafted by 9/2006.
2. Business Plan must be completed by 2/2007.

<u>WHY</u>
1. Public Safety/Homeland Security.
2. More effective management of natural, economic, and cultural resources.
3. Unified government operations.
4. Improved management of infrastructure.
5. Economic development.
6. Attract more grant funding through increased "readiness."
7. More effective use of limited funding resources.
8. Increased efficiency within government operations.
9. Improved "e-government."

Strategies

Should be SMART: Specific, Measurable, Achievable, Realistic, Timely.

Methods of Delivery
 MS Sharepoint collaboration site
  Disseminate meeting minutes
  Maintain calendar of events and deadlines
  Working document library
  Lists of key contacts
  Reference links to resources
  Content
   Shared Documents
    Project Administration
    Meeting Minutes
    Strategic Plan Documents
    Business Plan Documents
    Communications Documents
    Reference Documents
     Other State Strategic Plans
   Pictures
    Logo(s)
    Sample maps
    Diagrams
 MSDI portion of MMRG
  Project overview
   50 States Initiative

Appendix B

Overview of MSDI components
- The National Map activities
- NSDI Clearinghouse
- MEGIN
- MSGIC
- Orthophoto Co-op
- Cooperative Centerline

Newsletter page (monthly or bi-monthly) / Current high level status
- Featured successes (i.e. Centerline pilot, or ortho)
- Pending issues
- Approved draft documentation
  - Upcoming events

Reference links to resources
- NSGIC link
- MSGIC link
- PowerPoint presentations by Strategic Planning Committee Members
- 50 states documentation

Communication tools and talking points
- Organize and describe content from other areas
- Target Audience Documents
  - "How to communicate to your executives" resources
  - "How to influence your elected official"
  - "IT issues for GIS"

Contacts
- Key project contacts
  - Feedback email (msdi@towson.edu)
- Newsletter
  - Will be sent to MSGIC contact list and additional stakeholders
  - Will be a "digested" version of the Web newsletter
  - Drive people to MSDI portion of MMRG
  - Make sure that we have an "opt out" option
  - Lead with item of interest (e.g., MEGIN update for SIEC or 50-States Initiative Grant for ABLE, etc., successes at the county level…
    - Standing columns
      - Message from director
      - Public Safety/EM update
      - Statewide GIS Coordination

Time management principles
- Develop a timeline for communications.
- Post meeting minutes asap.
- Establish deadlines for reporting to NSDI.
- Set a schedule for reporting to Advisor group.
- Monthly meeting with Strategic Planning Committee.

Appendix B

Activities (not all-inclusive)
Specific actions that will match up with goals and strategies include:

> Develop a fact sheet.
> Develop talking points.
> Focus facts and talking points to a stakeholder or power group based on their
> interest and expertise, if appropriate.
>> Compare where Maryland is to where Maryland could be.
>> Compare where Maryland is to where Maryland was before MSGIC.
> Develop a distinctive logo.
> Create a slogan or catchphrase.
> Research the successes of other states' coordinating bodies and include the
> before/after stories on the fact sheet.

Evaluation
> Evaluate the success or failure of each activity and each communication
> product/vehicle via survey and response achieved versus response expected.
>
> Evaluate for relevance, clarity, credibility, response, satisfaction.
>
> Gather feedback about success at monthly planning committee meetings.
> Summarize and include in interim and final reports.

Appendix B

Appendix

Slogan or tagline
       a. Guiding (lighthouse theme)
       b. Guiding Maryland's Geospatial Framework
       c. Guiding Maryland's Mapping Framework
       d. Building Maryland's Geospatial Framework
       e. Connecting Communities, Maryland's Geospatial Data Initiative
       f. Making Maryland's Maps Better
       g. Maryland's Improved Mapping Initiative
       h. Sharing Data, <relevant tagline>

Maryland Spatial Data Infrastructure

Strategic and Business Plans for GIS Coordination in Maryland

Part 1
Strategic Plan

(Incorporates elements of MSGIC 2005 Strategic Plan and
NSGIC's Strategic Planning Process Guide)
Draft
September 2006
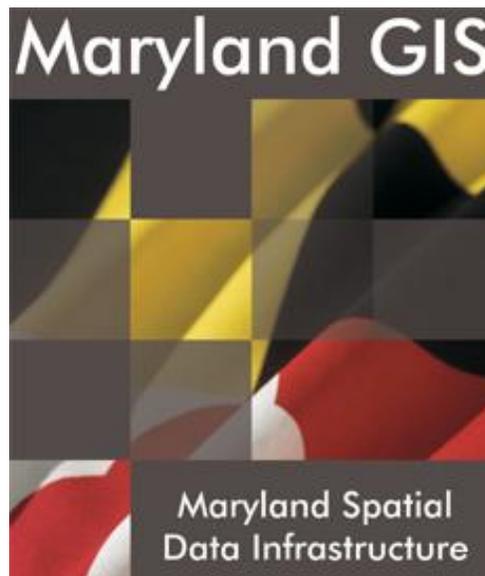
Prepared by

Strategic Planning Committee for MSDI [

Project Team Partners:

**Towson University Center for Geographic Information Sciences
Maryland State Geographic Information Committee**

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[INSERT AN UPDATABLE TOC]

Maryland Spatial Data Infrastructure
Strategic Plan Draft

About *Future Directions Fifty States and Equivalent Entities Involved and Contributing to the NSDI Plan*

"The desired outcome of this effort is that '**By 2006, fifty state Coordinating Councils are in place and routinely contributing to the governance of the NSDI.'** This activity is the fourth objective of 'Forging Partnerships with Purpose: A governance structure that includes representatives of all stakeholder groups guides the development of the NSDI.'" (http://pubs.usgs.gov/of/2005/1379/of2005-1379.pdf)

The Fifty States Initiative…"recognizes that it will not be possible to build the NSDI without taking advantage of the day-to-day efforts of state and local governments. This will require effective statewide coordination mechanisms that routinely contribute to the development of the NSDI. The Fifty States Initiative, endorsed by the Steering Committee of the Federal Geographic Data Committee, will advance the implementation of effective statewide coordination councils and the development of geospatial strategic and business plans." (http://www.fgdc.gov/grants/2006CAP/2006CAP_Announcement)

About *The USGS National Geospatial Programs Office*

"The mission of the USGS National Geospatial Programs Office (NGPO) is twofold. One mission component focuses on leadership and the prominent role of partners and stakeholders; the other focuses on the operational aspects and technical services needed to implement the NSDI and provide useful geospatial information to decision makers." (http://pubs.usgs.gov/of/2005/1379/)

1   Executive Summary

Fundamental Problem Addressed

A Geographic Information System (GIS) is computer-based technology that captures, stores, analyzes, and displays information about the earth's surface from geographically referenced data. Use of GIS is increasingly recognized as a critical government asset and an essential tool for planning and decision-making. Although the Maryland State Geographic Information Committee (MSGIC) coordinates GIS activities for agencies in the Executive Branch of Maryland's government, the voluntary organization does not have adequate resources to coordinate GIS activities for the state in a manner that efficiently serves all of the state's GIS needs. *A coherent means of coordinating geospatial resources across disciplines does not exist in Maryland.* The situation is

compounded by the perception that Maryland's regions are disconnected from each other. Outreach to local emergency management communities is deficient, and opportunities to support the current Administration's Five Pillars (Fiscal Responsibility, Education, Health and the Environment, Public Safety and Safer Neighborhoods, and Commerce) have been missed. [This text is subject to change]

Despite fragmented management of the state's data resources and lack of an internal mandate for coordination, recent experience indicates that the current climate is optimal for GIS coordination, as evidenced by the following projects.

- The State Highway Administration Cooperative Centerline project represents a strong partnership among state and county transportation entities.

- The Statewide Orthoimagery Cooperative project demonstrates the ability to leverage funding from multiple sources.

- Work on the MEGIN (DHS funded) and EMMA$^©$ (Towson University) projects represents a public safety aspect of coordination that involved obtaining, coordinating, and integrating GIS data from multiple disciplines and levels of government.

Clearly, a broad base for collaboration exists in Maryland.

Solution and Recommendations

In March 2006 a partnership of the Towson University Center for Geographic Information Sciences (TU-CGIS) and the Maryland State Geographic Information Committee (MSGIC) was awarded a United States Geological Survey/Federal Geographic Data Committee/National Spatial Data Infrastructure (USGS/FGDC/NSDI) *Future Directions Fifty States and Equivalent Entities Involved and Contributing to the NSDI Plan* (Fifty States Initiative) cooperative agreement grant to develop strategic and business plans for GIS coordination in Maryland and ultimately advance Maryland's role in NSDI.

The partnership formed a Strategic Planning Committee (SPC) comprising representatives from various levels of government, higher education institutions, non-government organizations, and the private sector, whose goal was to produce strategic and business plans by following a template process created by the National States Geographic Information Council (NSGIC).

An effective statewide coordinating mechanism will serve and protect citizens, leverage resources, minimize redundancies, and achieve a significant cost saving for the state and thus taxpayers. To that end, SPC recommends that the State of Maryland implement the following primary elements and action items to establish a coordinated Maryland Spatial Data Infrastructure (MSDI).

⇨ Establish a state-funded, full-time Geographic Information Officer (GIO) position that reports to the State CIO (Maryland Department of Budget and Management).

⇨ Designate and fund Towson University as the technical coordination entity for MSDI.

⇨ Establish a GIS Coordinating Council that includes representative membership from a stakeholders' board.

⇨ Establish a technical advisory board that recommends action to the GIS Coordinating council.

Fiscal Impact

[table format]
Upfront cost
GIO position; cost of establishing MSDI at TU; additional staff needed?; additional hardware and software needed? [California's plan recommended 10 staff and a $500K one-time investment in technology with a $125K annual cost thereafter.]
Return on Investment

Ongoing collaborations serve as case studies for the cost-saving and other benefits of GIS coordination.

1.   The *Maryland Cooperative Centerline Program* is a data sharing process between the State Highway Administration and local governments. Roadway data is needed for emergency response and management, routing buses and other vehicles, planning for land use and transportation needs, and numerous other essential business and management processes. The Cooperative Centerline program addresses a shared foundation to make these processes more efficient and to solve issues. Using a common centerline offers the following benefits:

- Allows better exchange of information about the roadway system;
- Creates continuity of roadway data and display at county boundaries, leading to the same "look and feel" across jurisdictions;
- Allows tracking of assets on and along the roadway network;
- Gives each entity that collects information about Maryland's roads a common model when referring to the system;
- Provides opportunities for more efficient collection of information about that roadway asset.

2.   High resolution digital imagery has become a mission critical product for federal, state, and local government agencies throughout Maryland. The Maryland State

Geographic Information Committee (MSGIC) is leading an effort to acquire imagery for the entire state in the spring of 2007 that will meet the needs of federal, state and local government agencies and others within the state. The cost is shared by partners. Benefits from the Statewide Orthoimagery Partnership include:

- Enhanced 911 service;
- Specifications meet partner's needs;
- Consistent product;
- Seamless coverage;
- Quality inspected;
- Coordinating entity manages procurement process;
- Opportunities exist for partners to upgrade; e.g., a county upgrades to 6" or 3" pixels;
- Cost savings of approximately 25% over "ad-hoc" purchases;
- An update frequency anticipated to be every 2-3 years permits partners to plan and budget for value-added features, e.g., road centerline updates, parcels, etc.

2   Background, Current Status, and Need

> A Geographic Information System (GIS) is computer-based technology that captures, stores, analyzes, and displays information about the earth's surface from geographically referenced data.

Background

Geography is a serious discipline with significant financial, practical, and logistical implications for government and business. Good geographic data in digital format is used to analyze geographic trends and patterns; manage assets such as utilities, infrastructure, and resources; form a basis for planning, operations, and decision-making; manage map service locations; and plan and deploy local and statewide response to emergencies and other crises. Geographic data and tools comprise a valuable resource that is becoming more widely recognized as a critical asset.

Current Status

The use of GIS is advancing at all levels of Maryland government. "Virtually *all* agencies collect geographically referenced data and can benefit from its use." (Source: MSGIC Strategic Plan 2005).

[Describe current relationship among state entities relative to GIS resources, interoperability, and communication, without editorial comment. Examples will come from SPC members and include the following:]

Relationship among different state agencies
Relationship between state agencies and local government

The Maryland State Geographic Information Committee (MSGIC) coordinates GIS activities for agencies in the Executive Branch of Maryland's government. Along with TU-CGIS, MSGIC is directing or otherwise involved currently in the following major projects.

- Statewide Orthoimagery Cooperative (with Maryland Department of Natural Resources)
- Statewide Cooperative Centerline (with State Highway Administration)
- Maryland Mapping Resource Guide
- Maryland Emergency Geographic Information Network (a DHS/MEMA/TU-CGIS project)
- Emergency Management Mapping Application (an application built by TU-CGIS)

Note: The Statewide Orthoimagery and the Centerline Projects are also Maryland's contributions to USGS *The National Map* project.

The MSGIC 2005 Strategic Plan identified technology advances and citizen expectations, among others, as issues that classify GIS coordination as an imperative.

"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." (http://www.msgic.state.md.us/publicat/stratpln/StrategicPlan2005.pdf)

Due to its nature as a <u>voluntary</u> organization, MSGIC cannot provide the cohesiveness and the energy required for responding to the significant array of tasks and issues associated with serving all of the state's GIS needs.

Need

The State of Maryland currently does not have a coordinating mechanism with the ability and authority to engage in contracts, set [or, <mark>recommend</mark>?] policy and standards, and provide oversight for the state's GIS activities; nor is there an entity in Maryland government that serves as a data coordinator. Technologically, Maryland is embarking on a number of enterprise systems that are not considering GIS early enough in the process, if at all. Resources are scattered and duplicated; rural areas and municipalities might be under-funded and therefore lacking in resources and/or the means to access other entities' resources; opportunities to optimize scarce funding are being missed.

An authorized, funded coordinating body will ensure that GIS technology benefits the entire state and does so in a cost-saving manner by the following activities and intended results.

Activities

- Providing contract management for operations.
- Encouraging and coordinating statewide initiatives.
- Engaging in agreements and partnerships with private sector businesses for value-added geospatial services.
- Eliminating redundancy, such as duplication of datasets and their associated effort and cost.
- Identifying the state's framework data layers (the structure that governments, academia, and the private sector can use to build their own GIS data) and their location.
- Providing a forum for technology transfer, best practices, and program guidance.
- Conducting an inventory of the state's GIS resources and their concentrations.
- Identifying geographic areas in need of specific GIS resources.
- Making resources available to levels of government that lack adequate funding for GIS.
- Providing oversight for coordinated GIS activities.
- Developing guidelines, policies, and standards for data and interoperability, operations, and management that ensure availability and integration of spatial data from multiple sources.

Intended Results

- A fully funded state Geographic Information Officer with specific level of authority and responsibilities.
- A trusted, effective, centralized GIS Coordinating office.
- GIS coordination incorporated as part of the state's business process.

- Freely accessible framework data layers.
- Improved base mapping.
- Cost-effective, efficient acquisition and use of resources.
- Greater ability to access federal funding for collaborative projects.
- Improved decision support.
- Data sharing as a function of standards.
- Enhanced productivity.
- Maximum return on investment.
- A meaningful contribution to NSDI by helping to build a national geospatial enterprise architecture and by providing useful geospatial information to decision-makers at the national level.

In March 2006 a partnership of the Towson University Center for Geographic Information Sciences (TU-CGIS) and the Maryland State Geographic Information Committee (MSGIC) was awarded a United States Geological Survey/Federal Geographic Data Committee/National Spatial Data Infrastructure (USGS/FGDC/NSDI) *Future Directions Fifty States and Equivalent Entities Involved and Contributing to the NSDI Plan* (Fifty States Initiative) grant to develop strategic and business plans for GIS coordination in Maryland and ultimately advance Maryland's role in NSDI. The Fifty States Initiative program affords the timely opportunity to develop a plan that meets the needs of all of Maryland's GIS stakeholders and also represents a significant cost-saving for the state.

The partnership formed a Strategic Planning Committee (SPC) comprising representatives from various levels of government, higher education institutions, non-government organizations, and the private sector, whose goal was to produce strategic and business plans by following a template process created by the National States Geographic Information Council (NSGIC). SPC recommends a coordination mechanism based on the nine Criteria for a Statewide Coordination Model developed by NSGIC:

An effective statewide spatial data infrastructure that draws resources from and generates resources to diverse stakeholder groups will serve and protect citizens, leverage resources, minimize redundancies, and achieve a significant cost saving for the state and taxpayers. The coordinating mechanism's authority is intended to augment and complement rather than interfere with individual agency missions and business processes.

[t might be useful here to describe the direct benefits to top political officials and their issues- (e.g., economic development, smart growth, preserving open space, tourism, or emergency response)]

This plan defines a coordinating mechanism that the Strategic Planning Committee believes will work for Maryland and ultimately benefit the nation.

**National States Geographic Information Council
Nine Criteria for a
Statewide Coordination Model**

1. A full-time, paid coordinator position is designated and has the authority to implement the state's business and strategic plans.

2. A clearly defined authority exists for statewide coordination of geospatial information technologies and data production.

3. The statewide coordination office has a formal relationship with the state's Chief Information Officer (or similar office).

4. A champion (politician or executive decision-maker) is aware and involved in the process of coordination.

5. Responsibilities for developing the National Spatial Data Infrastructure and a State Clearinghouse are assigned.

6. The ability exists to work and coordinate with local governments, academia, and the private sector.

7. Sustainable funding sources exist to meet projected needs.

8. Coordinators have the authority to enter into contracts and become capable of receiving and expending funds.

9. The Federal government works through the statewide coordinating authority.

3 Key Elements of MSDI

3.1 Geographic Information Officer

Issue

Maryland does not have a full-time, paid GIS coordinator position with designated authority to implement the state's business and strategic plans.

Recommendation

> ⇨ Establish a state-funded, full-time Geographic Information Officer (GIO) position that reports to the State CIO (Maryland Department of Budget and Management).

<mark>Formal and informal mandates: policy coordinator?</mark>

Considerations for housing the GIO include proximity to Annapolis and/or Towson University, and the need for the incumbent to be available to all areas of the state.

Benefits

3.2 Towson University as Technical Coordination Entity for MSDI

Issue

The Center for GIS at Towson University TU-(CGIS) and MSGIC have been developing, maintaining, and growing NSDI infrastructure since 2000 through federal grants and in-kind matches. However:

- No formal role has been assigned to TU-CGIS to maintain Maryland's component of NSDI.
- No sustainable funding has been generated for NSDI maintenance.
- No official plan to manage and grow the infrastructure is in place.
- No mandate of responsibility for individual framework layers exists.

Recommendation

> ⇨ Designate and fund Towson University as the technical coordination entity for MSDI.

Benefits

Towson University will be the formal location of Maryland's framework layers.

MSDI will be Maryland's NSDI clearinghouse. [contract, mandate, proclamation)]?

MSDI will be responsible for populating MMRG with data and applications entries.

Housing the coordinating body at Towson University leverages existing, proven resources that are already at work for various state agencies. Towson University would respond to the direction of the GIS Coordinating Council and also has the ability to form regional partnerships with other universities for backup and the redundancy necessary for emergency management.

3.3 Establish a GIS Coordinating Council that includes representative membership from a stakeholders' board.

Issue

Recommendations

⇨ Conduct state level COMAR (Code of Maryland) GIS spending audit.

Benefits

3.4 Establish a technical advisory board that recommends action to the GIS Coordinating council.

Issue

Due to its nature as a voluntary organization, MSGIC cannot provide the cohesiveness and the energy required for responding to the significant array of tasks and issues associated with serving all of the state's GIS needs. However, MSGIC is a valuable, issues-driven organization comprising representatives of local government and other Maryland GIS stakeholders such as academia, regional planning groups and the private sector. Because MSGIC has achieved much progress toward integrating GIS technology throughout state government and among all users of geo-spatial data and technologies in Maryland, MSGIC can provide support to the GIO and the GIS Coordinating Council......[more?]

Recommendations

<mark>[from MSGIC Strategic Plan 2005:]</mark>
⇒ Create an NSDI subcommittee of MSGIC that focuses on the health and maintenance of Maryland's NSDI infrastructure.
⇒ Increase participation in MSGIC by state and federal agencies.
⇒ Conduct annual Needs assessment and Implementation Plan update. Increase political lobbying efforts for GIS.

[<mark>Other suggestions: Current function and suggested changes</mark>
<mark>Current composition and suggested changes</mark>
<mark>Current level of authority, current reach, suggested changes</mark>]

3.5   Definition of User Base

<mark>Breadth: statewide</mark>
<mark>Entities: all levels of state government; NGOs and other non-profit organizations; utilities; private sector business</mark>
<mark>Relative to non-state government, use of resources is free/partnership/fee for service? Define "resources."</mark>

4   *Methodology*

4.1   Mechanism for Establishing and Funding GIO and MSDI at Towson University

<mark>GIS coordination needs an internal state mandate that could help protect against budget cuts and would garner broader, more consistent and active participation than MSGIC currently experiences.</mark>

<mark>Legislative mandate; executive order; budget authorization???</mark>

4.2   Timeline for Establishment of GIO

4.3   Timeline for Designation of MSDI at Towson University

5   *Performance*

5.1   Mission and Values Statement of GIO

5.2   Key Elements in GIO Job Description

<mark>Education and Experience</mark>

> Primary Functions
>> Ability to set policy and/or recommend policy?
>> Inventory and coordinate data resources
>> Inventory and coordinate technology resources
>> Cost accounting
>> Contracting and procurement ability
> Relationship to CIO
> Relationship to GIS Council

5.3 Performance Standards and Measurement of Return on Investment

Near term goals
Long term goals

5.4 Responsibility for Performance Measurement

DBM? Internal? GIO?

5.5 Timeline for Review of GIO and MSDI at Towson University Effectiveness and Return on Investment

Key areas: Data, Redundancy, Contracting Ability, Beneficial Partnerships, Cost savings in acquisitions and resources; Ability to encourage government, non-government, and private sector to use coordinated resources;

6 Current Resources and their Locations

6.1 MSGIC

MSGIC is a volunteer organization that currently functions as the coordinating body for agencies in the Executive Branch of Maryland government. MSGIC is strong in experienced, educated volunteer membership with up-to-date hardware and software skills and knowledge of issues. MSGIC is weak in two primary areas: the membership's ability to commit adequate time and resources to serve all of the states' GIS needs, and the absence of formal authority to set policy and standards.

6.2 Data Resources
[questions are taken from NSGIC's planning template]
Existing

Inventory of geospatial content
Who are the data custodians?

Needed

- Technical architecture that integrates federated data sharing among
  - Cooperative Centerline (SHA)
  - EMMA (MEMA)
  - CAD 911 Integration (MEMA)
  - EPHTS (DHMH)
  - EEMS (MDE
  - AEIS (MAA)
  - FRED (MIEMSS)
  - MDFINDER (MDP)
  - NEDSS

What is needed to support exchange, storage, and processing of geospatial data? What data are needed?

6.3 Technology Resources

Existing

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

Needed

What system architectures are needed? (e.g., servers, desktop clients, web browser clients, networks, etc.)

What applications need to be supported?

What overarching enterprise architecture plans need to be followed (and at what level of compliance)? (e.g., is there a service-oriented architecture?)

What interoperability specifications need to be followed, if any?

What people expertise is needed? (e.g., GIS managers, GIS technicians, GIS analysts, supervisors, executive level.)

6.4   Fiscal Resources

Issue

Negatives
- GIS is not consistently represented in agency budgets.
- Recent funding successes have been driven by grants (DHS, USGS, DoD)
- Ad-hoc funding has had only limited success.
- 911 Numbers Board provides ad-hoc funding for key data layers only.
- There is no designated coordinator to enter into contracts.

Positives
- Towson University has successfully managed MOUs for fund transfers across multiple state and local entities.
- Master Purchase Agreement for ESRI software
- SHA is providing a model for statewide orthoimagery fund coordination.
- MEMA serves as a funding coordinator for mitigation and public safety projects with advisory input from SIEC and GOHS.
- DBM CATS provides a coordinated approach to procurement.
-

Recommendation

⇨ Create a consistent line item for GIS in order to adequately capture required costs.

⇨ Align GIO position and MSDI at Towson University funding with a legislated/regulatory mandate.

⇨ Leverage economy of scale for organizations that currently have GIS budgets.

⇨ With support from legislature, create a non-lapsing fund that would span multiple fiscal years.

6.4   Intangible Resources

Existing

- Coordination and planning by cooperative group effort is successful.
- Support for the plan has been expressed by Maryland's CIO.

Needed

- Authority to recommend and set policy and standards, establish procedures, and enforce compliance.
- Mandates to achieve data standards, sharing, interoperability, and coordination goals.
- Commitment to funding.

6.5 Standards

Issue

Recommendation

7   *Risks*

Major external challenges that could affect our efforts in a negative way?

What operational issues do we have and how can we overcome these?

How do we recognize and overcome obstacles?

What might happen if we do not anticipate obstacles?

How do we assess MSDI vulnerabilities? (e.g., public access to sensitive data, system back-ups, viruses and such, etc.)