NSDI Cooperative Agreements Program

Interim and Final Project Summary Format
**Fifty States Initiative: Strategic and Business Plan Development in Support of the
NSDI Future Directions Fifty States Initiative**

Agreement Number - 05HQAG0131
Interim or Final report - interim

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Project Narrative
The purpose of this project is to produce a Montana Geospatial Strategic Plan that will
guide the Montana Land Information Advisory Council (MLIAC), the Montana
Department of Administration (DOA) (as the state's geospatial coordination agency), and
Montana geospatial stakeholders. The strategic plan will guide by inclusion of goals,
objectives and suggested strategies that can assist in producing and implementing the
annual Montana Land Information plan which will be the annual business plan. This plan
will identify and prioritize tasks that assist in building the Montana Spatial Data
Infrastructure (MSDI). This in turn will assist in implementing the Montana Land
Information Act and dispersing funding in the Montana Land Information Account to help
collect, integrate, maintain, and disseminate MSDI and other spatial data.

Project Progress

Proceeding under an initial contract with Janet Cornish of Community Development
Services of Montana (CDS), a private Montana contractor experienced in facilitation and
plan development, we conducted four facilitated stakeholder meetings. These meetings
were with Federal agencies, State agencies, Local Governments and the Private sector,
with the goal of identifying key issues and impediments related to GIS, geospatial data,
and geographic information technology (GIT). Organizing this type of meeting for the

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Tribal sector proved problematic, so in order to get some input the MLIAC Tribal representative traveled to each of the seven tribes in Montana. The data collected from all the sectors has been compiled into a document called "Key Findings" which is included as Appendix 1 to this report (page 4).

Following the completion of the stakeholder issue identification phase, a facilitated meeting with MLIAC was held on June 27, 2006 for the following purposes:
- examine the stakeholder issues
- add any additional issues that MLIAC was concerned with
- prioritize and group the issues
- produce a series of strategic goals and objectives based on the issues.

These goals and objectives were compiled into a draft document. At that point CDS had completed the tasks under the initial statement of work (under the original $5,000 estimate).

DOA/ITSD entered into discussions with CDS to produce a statement of work for the second phase of the project, which is the writing of the strategic plan. An addendum to the initial contract was signed July 20th, 2006 with the scope of work identified in the table 1 below:

Table 1. Cost Estimates and Time Line – Montana Geospatial Strategic Plan		
Item Number and Description	Time of Performance	Cost (hours X $50.00 per hr.)*
1. Refine and Revise Goals and Vision Statements	July, 2006	$400.00
2. Prepare Draft Strategic Objectives	July, 2006	$500.00
3. Review of Strategic Objectives	July, 2006	n/a
4. Refine Strategic Objectives	July, 2006	$200.00
5. Develop Strategies	August, 2006	$2,500.00
6. Identify Resources	August, 2006	$2,500.00
7. Identify Roles and Responsibilities	September, 2006	$1,500.00
8. Review of Strategies, Resources and Roles	September, 2006	n/a
9. Revise Document Based on Comments	September, 2006	$400.00
10. Develop a Time Line for Implementation	October, 2006	$500.00
11. Develop Methodologies for Annual Plans	October, 2006	$300.00
12. Plan Evaluation and Updates Methodology	October, 2006	$200.00
13. Prepare Draft Plan	November, 2006	$1,500.00
14. Review of Draft Plan	November/December, 2006	n/a
15. Design of Review by Larger Audience	December, 2006	$100.00
16. Prepare Final Plan	January/February, 2007	$1,500.00
Total Contractor Cost		**$12,100.00**

Work has begun on this contract and a draft of the initial goals and objectives is included as appendix 2 of this document (page 8). We are using these draft goals and objectives to work on our annual business plan.

To date we have expended approximately $3,025 of the grant funds under our contract with CDS and another $1100 dollars in travel and communication expenses related to the stakeholder meetings. Based on the $12,100 estimate to finish writing the plan we should have sufficient grant funds to complete the strategic planning process.

At this time we need to formally request an extension of the grant until March 31, 2007. We will have all deliverables completed by that date.

Next Steps
The next steps are to finish the tasks in Table 1.

Attachments
- Key Findings (Issues Identification) - Appendix 1
- Refined Goals and Objectives - Appendix 2

Feedback on Cooperative Agreements Program

We will provide this upon grant completion

Appendix 1 - Key Findings

Montana Geospatial Strategic Plan
Shareholder Meetings ~ Issues and Opportunities Identification
Key Findings ~ June 27th, 2006

Between October, 2005 and June, 2006 a series of meetings were held and surveys conducted among a variety of Montana GIS shareholder groups representing the following sectors:

State Government
Federal Government
Local Government
Private GIS Service Providers and Users
Tribal Communities

The state and local government meetings were held in Helena with all participants present. The federal and private meetings were held using Web-Ex technology in association with a conference call. Generally, the meetings followed the same format. Following introductions, the meeting facilitator (Janet Cornish, CDS of Montana) povided an overview of the Geospatial Strategic Planning process. Then, through a series of round table discussions, participants identified issues and opportunities associated with geospatial information and its relationship to their business enterprises. If time permitted, the participants were also asked to draft general goal statements in response to the issue and opportunities identified.

Surveys were conducted using Survey Monkey © prior to three of the meetings (state government, local government and private sector) and for the tribal sector. No survey was conducted in conjunction with the federal government meeting. Survey results were summarized and presented to participants at the beginning of the meeting to help spur discussion and to provide a framework for organizing ideas.

A complete listing of identified issues, organized by shareholder group has been prepared as a separate document. A complete transcript for each meeting is also available.

The following list of issues (needs, barriers, concerns) and opportunities summarizes the results of this effort by category

Education and Training
The need for educational programs was clearly articulated. Education tailored for GIS technicians as well as end users and the community in general was identified as critical. Specific comments included the need to:
  ➢ Learn from others' successes
  ➢ Provide education that is specific to users' needs
  ➢ Provide education regarding new technologies
  ➢ Provide GIS training for the layman (non-GIS technicians) – end users

➢ Offer general public education regarding the role of GIS

Professional Development
In addition to benefiting from specific training and education, GIS specialists are looking to enhance their roles as professionals in their fields. More particularly, they identified the following concerns:
➢ Additional forums are needed to exchange information
➢ Expertise at the entry level is uneven
➢ The appropriateness of certification programs for GIS technicians should be explored

Political Efficacy
The most commonly identified issue raised at shareholder meetings was the lack of a defined relationship between geospatial technology and the decision and policy makers who allocate resources in support of GIS. Those ultimately in charge of allocating resources to geospatial programs are often unaware of how critical this technology is to public policy making and program implementation. More specifically, shareholders identified:
➢ The lack of GIS Champions among those in leadership positions
➢ The fact that the benefits of GIS are not demonstrated to decision makers
➢ Entrenchment and Turf Issues
➢ The need for intergovernmental approaches to enhance efficient use of resources
➢ The need for the highest level of decision makers to be involved in GIS policy decisions
➢ The lack of a unified voice within agencies
➢ The need for decision makers to understand how GIS can be successfully applied
➢ Recognition that public expectations regarding GIS may not match reality
➢ The need for a voice in GIS policy making on behalf of small/rural communities
➢ The need for a voice in GIS policy making on behalf of tribal communities

Financial Resources
Clearly additional funding for GIS is needed. More particularly, the following issues related to the lack of adequate financial resources in support of geospatial programs were identified:
➢ Staffing at all levels of government
➢ Addressing the mismatch between well-resourced efforts such as Google Earth and under-funded state support for these efforts
➢ Generating Data
➢ Addressing rural and small town GIS programs
➢ Reforming software licensing requirements to lower costs

GIS in the Mainstream
Meeting participants noted that in many cases GIS programs operated in isolation, further exasperating the problems associated with the general lack of political support for GIS. In order to address this problem, participants pointed to the need to

- ➢ Incorporate GIS into the mission of our agencies
- ➢ Deliver services efficiently and effectively
- ➢ Incorporate GIS into IT generally
- ➢ Link GIS to statewide policy making

Coordination and Communication

The GIS community faces a series of issues related to the lack of coordination among users in all sectors. Coordination and efficiency would be greatly improved by better communication. The participants identified the following areas of concern related to data coordination and communication within the GIS Community:
- ➢ Duplication of effort
- ➢ The need for collaboration
- ➢ The need to share resources
- ➢ The lack of coordination across jurisdictional boundaries (e.g., city, county, tribal, state, inter-state, Federal and international)
- ➢ The need for support for a statewide data coordinator and a metadata coordinator
- ➢ The lack of awareness of GIS, particularly within the tribal sector
- ➢ The need for better communication among stakeholder groups
- ➢ The identification of partnerships among public and private entities to better serve the GIS community
- ➢ The need to clearly define the use and distribution of MLI funds

Technology

In addition to providing educational programs regarding advancements in geospatial technology, participants noted that there are a variety of tools available to help to better find and share information. However, these tools are often underutilized. They also noted that there were some difficulties associated with communicating among various software types. Suggestions included
- ➢ Making greater use of web based services
- ➢ Using Geo-Communicator to share information
- ➢ Using of Geospatial One-Stop to obtain information
- ➢ Encouraging software interoperability

Data Management

Shareholders identified a variety of issues associated with data collection, verification, distribution and maintenance. Issues identified include:
- ➢ Development of state data framework themes and layers with clearly defined responsibilities regarding their development and maintenance
- ➢ Common Protocols and Standards (national standards)
- ➢ Data Stewardship
- ➢ Data management geared to high priority issues – Indian assets, energy development, recreation
- ➢ Data management geared to business requirements
- ➢ Data distribution and sharing
- ➢ Easily understood data formats

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- ➢ Data integrity and accuracy
- ➢ Integration of GIS with CAMA data
- ➢ The lack of GIS Applications and/or resources for implementation in certain fields (e.g. cultural resources management and tribal resources)
- ➢ Inconsistent address information
- ➢ Data complexity as a barrier to Enterprise System Development

Overall Management and Organization of Geospatial Information

As GIS technology has advanced, there has been a shift in the way data is collected and shared. This new system can be characterized as "federated", where a series of independent entities form a cohesive data sharing system. Their connectivity enables them to create a better source of information overall. In addition, participants noted that organizations were taking an integrated "enterprise" approach, looking at how computer based information systems can support the basic business processes, functions and organizational units of an entity. Issues related to these trends include:

- ➢ Lack of Expertise as a barrier to implementing an enterprise approach
- ➢ The critical role of data access vision in developing an effective enterprise approach

Appendix 2 - Draft Goals and Objectives

Montana Geo-Spatial Strategic Plan
Draft Strategic Planning Goals and Objectives
July 25th, 2006

1. Encourage the development of GIS education and training programs
   - Foster programs at the elementary and high schools through community partnerships among GIS professionals, post secondary institutions and local schools
   - Promote the incorporation of GIS curriculums into colleges and universities
   - Develop continuing educational programs that support professional development and growth
   - Provide GIS training for non-technical users

2. Complete, Validate and Maintain the Montana Spatial Data (and Metadata) Infrastructure consistent
   with appropriate national standards
   - Establish clearly defined roles responsibilities for the development, maintenance and dissemination of each of the state data framework themes and associated layers
   - Establish common protocols, standards and formats for data collection and management and associated metadata
   - Provide for ongoing support *to* and coordination *among* the various data stewards

3. Increase accessibility of GIS Technology and data for all users
   - Inform all user groups and the public of GIS services and applications
   - Develop and promote web based services
   - Provide for clear and easy access to geospatial data for all users
   - Define and assign data stewardship and clearinghouse functions based on user-needs

4. Incorporate GIS into Overall Public Policy Development and Decision Making
   - Integrate GIS into mainstream IT
   - Match geospatial information and data needs with public policy formulation (i.e., show how GIS can inform public policy making)
   - Increase support for GIS among decision makers and the public (and with respect to Goal #6)
   - Demonstrate the critical value of GIS to a variety of disciplines/business practices

5. Foster Communication/Collaboration/Coordination Across Jurisdictional Boundaries among local,
   state, federal, tribal and private sector entities
   - Develop and promote a federated GIS model
   - Identify and address barriers to inter-jurisdictional cooperation and communication

> ➢ Develop and promote standardized data formats, protocols and standards (per Goal #2)

6. Seek Adequate Human and Financial Resources in support of GIS programs, data development and

  maintenance and education.

> ➢ Identify existing funding mechanisms available for GIS programs and activities
> ➢ Review available funding models for their applicability to Montana
> ➢ Identify new funding strategies and approaches
> ➢ Identify and promote staffing strategies that take advantage of inter-jurisdictional cooperation and information sharing (per Goal #5) to achieve greater efficiency