

# SUMMARY NOTES AND OBSERVATIONS FROM MEETINGS AND SURVEY

## Business Planning for The Idaho Map (TIM) Regional Resource Center (RRC) Development and Operations

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7-5-2010

### Review Instructions

\*\*Reviewers are encouraged to read this summary and provide comments, corrections, ideas, and any elaboration on the topics that are covered. Specific topics for solicited input are highlighted as: **\*\*solicited comment**. This input may be in the form of an email message and/or a mark-up of this Word document (using the Track Changes feature or some other method of highlighting comments and revisions). We request that comments be **submitted by July 30** and submitted to:

- Keith Weber, [webekeit@isu.edu](mailto:webekeit@isu.edu)
- Eric Smith, [ericsmithgis@gmail.com](mailto:ericsmithgis@gmail.com)
- Peter Crowell, [pcrowell@crowell-schulte.com](mailto:pcrowell@crowell-schulte.com)
- Bill Masters, [bill@gisquality.com](mailto:bill@gisquality.com)

# 1. INTRODUCTION

This document contains summary notes from initial information and observations from the Crowell-Schulte consulting team regarding business planning for TIM Regional Resource Center (RRC) development and operation. This is part of the recently initiated project which is being managed by the ISU GIS Training and Research Center (GIS TReC) and which is being funded by a Category 4 NSDI CAP Grant. The project will result in RRC Business Plans for the Eastern and Southeastern regions and guidelines for business plan preparation for other Idaho RRCs. While the focus for business plan development is on the eastern and southeastern regions, the project includes participation from the entire Idaho GIS community.

The project began in May 2010. These notes reflect input gathered from the following sources and meetings:

- RRC business planning kick-off meeting on June 23 in Pocatello
- RRC discussion at the North Idaho GIS User Group meeting on June 28
- The “RRC Forum”, a publicly accessible Blog allowing postings under several topic areas pertinent to RRC development
- Results of a Web-based survey deployed and managed by the Idaho project team

Appendix A provides a summary of input and ideas from these meetings and sources and the people and organizations that have taken part in them.

This summary has been prepared to document current thoughts and observations and to identify topics which need additional input by project participants in Idaho. **We request that all interested parties review this document and provide comments and responses to questions that are posed by July 30.** Comments may be submitted in an email message or as mark-ups to this Word document. If comments are submitted as Word document mark-up, please use the “Track Changes” feature or highlight comments with another font color.

## 2. RRC FOUNDATION AND CONTEXT

### 2.1 Idaho SDI Strategic Plan Reference

The planned purpose and roles for the RRCs were originally explained in the 2008 *Strategic Plan for Development and Deployment of Idaho's Spatial Data infrastructure* (p. 29):

“...[RRCs] act as points of coalescence for GIS user organizations in different areas of the state and help to connect local activities with the statewide SDI program. They will be supported by existing institutions or groups (e.g., universities, existing regional GIS user groups) that have GIS resources sufficient to provide some support to users. They would provide a number of services and support functions, including: a) answering technical questions for users, b) providing some general "consulting" support and advisory services for organizations in the process of GIS development, c) training sessions, d) site for meetings and special SDI events, and e) aggregate and serve regional Framework data These centers can be established and put in operation over a period of time as they are needed and as resources permit. It is expected that these centers will include staff and technical system resources. It is also expected that they will provide “virtual services” through the Web (i.e., Web-based information, links, contacts, blogs, etc.) that address the needs of users in specific regions of the state. The coordination and support now provided by regional GIS user groups will be a foundation for Resource Center development.”

This statement above defines a range of possible roles for the RRCs. Specific services and activities depend upon the needs and interests of organizers in each region and the resources available. These services and activities do not need to be identical for each RRC and they may evolve over a period of time. It is important to note that the RRCs, when formed, are part of The Idaho Map (TIM) program and will exist to encourage local and regional TIM participation and to provide help and support to GIS users in the regions defined for each RRC.

## 2.2 RRC Mission Statement

At the Idaho GIS Forum at the ISU-Pocatello campus on June 24, Keith Weber moderated an interactive discussion on the crafting of a mission statement for RRCs. There was a consensus that one common mission statement should be prepared to guide activities of all RRCs but that specific RRCs may include accompanying elaboration that describes their particular role and focus.

The draft mission statement is:

*Be a vital component of the organizational and collaborative structure of The Idaho Map (TIM) by supporting the creation and maintenance of framework data layers to facilitate sound decision making and thereby enhance the quality of life in our region.*

*Act in the capacity of both a mentor for RRC members and liaison between the regional and state GIS community.*

**\*\*\*See the RRC forum for a current draft of the common mission statement\*\*\***

**\*\*Reviewers: please review and provide comments or suggested re-wording of the draft mission statement above**

## 3. POTENTIAL RRC SERVICES AND USERS

Table 1 summarizes potential roles and services to be provided by RRCs. Input provided by project participants thus far has included the following general observations:

- The primary goal of the RRCs is to enable and encourage a connection and coordination between GIS stakeholders throughout the state and TIM activities at the state level.
- Support in GIS development and access by local governments (particularly low population, low resourced jurisdictions) is a primary function of the RRCs
- While Idaho RRCs will share a common mission, the mix of services that each provide will likely vary among the RRCs and the type of services will evolve over time as needs and resources allow.
- RRCs must operation in an opportunistic manner—especially in the early years of their operation. RRC Resources will not likely be sufficient to support all potential services so resourcing approaches should be flexible and targeted at priority needs and projects as they materialize. In other words, RRCs will not have a large number of full-time positions or major, dedicated system resources. Rather, they will use other staffing options (part-time positions, contracted staff, student interns, volunteers, “borrowed personnel from other organizations) and may share system resources with other organizations.
- It is not necessary for RRCs to provide a full range of potential services initially after RRC implementation. Services may be added (and eliminated) over time as needs and resources permit.

### 3.1 Potential RRC Services

**\*\*Reviewers:** Please examine the table below and provide comments and suggested changes. Please provide input on applicability and priority of the potential RRC services and any elaboration on the description. Also, add any additional services that may be appropriate for RRCs.

**Table 1: Potential RRC Services**

Potential Role/Service	Description	Priority* (1 to 5)	Resource Requirements	Notes/Commentary
GIS Contact Clearinghouse and Professional Networking Support	Compilation and ongoing update to a Web-accessible directory of Idaho (and perhaps out-of-state) GIS professionals. These contacts will agree to have their contact and basic experience and skill sets posted and agree to be available to Idaho GIS users that need advice and basic assistance in GIS development and deployment.	5	Minimal time or system resources	Very important for all RRCs
GIS Professional Labor Pool Management	This service takes the "GIS Contact Clearinghouse" a step further by organizing and managing a pool of GIS specialists, primarily among government agencies, who may be able to provide consulting or development services to other government organizations that lack the in-house staff. Services would involve more than simple advice or assistance provided at no cost. Organizations would offer their GIS staff, as availability permits, to provide support, at a standard fee, to other jurisdictions. The RRC would help coordinate requests for and assignment of services and would provide financial management services as needed to reimburse the organization providing the services.	2	Depends on need and availability	Potentially could create competitive issues with private sector consultants providing services. Also dependent on accounting mechanisms acceptable to government jurisdictions
GIS Project/Best Practices Catalog*	Compilation and ongoing update to a Web-accessible "library" of successful GIS projects, and demonstrated "lessons learned", and best practices. This Web-based library would provide practical examples and project approaches GIS technical development and program management) that could be reviewed and used by other organizations. Supports the concept, "don't reinvent the wheel".	5	Minimal time or system resources	This could also be a clearinghouse for professional papers and publications of the participants that relate directly to their specific needs. Perhaps also a set of links to similar data on the web.
Regional Framework Source Steward	A variety of coordination and support activities to support and facilitate Framework stewardship—playing an intermediate role between source stewards (e.g., County and City GIS programs) and Framework Stewards assembling and updating statewide Framework data sets. The RRC would accept data from Source Stewards, perform QA, edgematching between jurisdictions, reformatting, packaging and submittal to Framework Steward	3	Need dedicated staff with GIS data skills, computer hardware, and GIS software	Importance of this role may vary among different RRCs
GIS Data/Metadata Compilation and Update	Technical services involving the compilation of GIS data sets. This may involve field data collection, scanning/digitizing from hardcopy sources, integration/formatting of existing automated sources for the development and/or update of Framework or non-Framework GIS datasets.	2	Need dedicated staff with GIS data skills, computer hardware, and GIS software	Providing such services potentially could create competitive issues with private sector (at least for major GIS data compilation projects)
Support/Encourage Adoption of TIM Standards and Policies	Designated RRC representatives track and support the development and approval of GIS standards and policies (approval by IGC and ITRMC). Includes raising awareness and understanding of standards and policies among GIS users in the region and supporting their practical adoption and use. Requires participation in standards review and meetings.	5	Minimal to moderate staffing requirements	Should there be a RRC Technical Working Group (TWG) to deal with RRC/IGC/ITRMC interaction?
Organize/Host GIS Meetings and Events	Support in planning and organizing GIS meetings and events directed mainly at people and organizations inside the RRC region. These may be project meetings, training sessions, workshops, etc. This includes scheduling, identifying and lining up facilities,	4	Varies depending on the number of events	May include events sponsored by the RRC or events sponsored by another organization (University

	promotion, registration services, establishing electronic access environment, etc.			group, vendor) for which the RRC provides support services
Prepare Project Specifications and Support GIS Services Procurement	Work with regional partners (mainly local governments) to prepare technical specifications and procurement documents for GIS products and services from the private sector. Also support local governments in evaluation of proposals and selection of contractors and vendors. This may include procurement of GIS database services, software procurement, application development services, Web hosting services, etc.	3	Requires access to library of template specifications and RRC person in "consultant role"	Could create competitive issues with private sector since GIS consultants also provide technical specification and procurement support services
Regional Project Negotiation and Management Support	Support negotiations with GIS service providers and contract preparation for GIS services (mainly database development) that involve multiple jurisdictions/organizations in the region. Follow this with project management support (contract management, review/approval of deliverables, status reporting, etc.) on behalf of the project participants	3-4	Moderate—need RRC person with technical knowledge and project management skills	
Coordinate, Promote, and provide GIS Training and Education	Involves assessment and monitoring of training and education needs by the GIS community inside the region and identification of training and education opportunities for which there might be interest (instructor led training sessions and workshops or Web-based training sources like the ESRI Virtual Campus). In addition, the RRC could plan, organize, and conduct training sessions.	4 (support training provided by other organizations) 2 (RRC plans and provides training)	Moderate—requires trainers, training materials and facilities for training sessions	Might create overlap or coordination problem with training focus of the ISU GIS TreC or other organizations providing training.
Provide regional representation on IGC and communication with IGO	Ensure that representatives from the region participate on the Idaho Geospatial Council (IGC), on the IGC Executive Committee as appropriate, and maintain regular communications with the IGO to keep abreast of developments impacting TIM, and play an advocacy role for TIM initiatives impacting the region. According to By-Laws IGC participation is open and Executive Committee members are elected. There are reserved Executive Committee seats for GIS TreC and the "geospatial Clearinghouse (INSIDE Idaho). The By-Laws call for remaining seats to be filled by designated stakeholder organization categories (state agencies, federal agencies, local government, tribal government, utility, private sector).	5	Moderate	RRC representatives should attend IGC meetings and propose candidates for Executive Committee seats.
Grant research exploration, administration	Assign RRC personnel and assume ongoing role to identify potential grant opportunities and assess appropriateness of upcoming grants to support TIM and GIS programs in the regional (and for the state as a whole). Participate in the preparation of grant applications (with the IGO, government agencies, and other RRCs as appropriate) and play an oversight and grant administration function	4	Requires dedicated staff resources for grant research and preparation	
Hosting GIS data and services**	Providing hosting services for organizations in the region—particularly small jurisdictions which are not maintaining GIS infrastructure or data. Hosting would include data (and perhaps data update services), required software, and applications for Web-based access to "subscribers" in the region.	3	Requires server and software and dedicated personnel for system, software, and database admin	Potentially could create competitive issues with private sector companies that provide hosting services. Opportunity exists for RRC partnership with private sector. Also, could use "Cloud" based data and software services
Designing/ developing GIS applications and Web Services	Involves a service, similar to that of a private consultant to design and develop custom GIS applications and Web services for an organization in the region. This work may result in applications installed on the user's system or providing them in a hosted environment	3	Moderate. Requires personnel with GIS technical skills	Potentially could create competitive issues with private sector companies that provide these GIS services
GIS Industry Monitoring and News	The RRC, in coordination with the entire TIM community keeps track of new industry products and methods that may impact the Idaho GIS community. Information is	4	Minimal to Moderate	

	compiled and distributed (via Geotech, Blog, etc) about upcoming software releases, IT/GIS standards, GIS applications outside Idaho, etc.			
Promote Awareness of GIS	RRC representatives promote GIS awareness—mainly targeting non-GIS users who could benefit from a better understanding of GIS. This includes communications (Web postings, brochures, special programs like GIS Day activities, briefings at events). In coordination with the TIM community, this promotion may target senior officials, potential users in government organizations, students, members of professional societies, etc.	5	Minimal to Moderate	Promotion to elected/senior officials and potential users in government may actually take more resources (time) than one thinks. Since this is a “5”, it implies a reasonable amount of resources. Will require coordination with the IGC and IGO.

\*Subjective indication of importance and appropriateness for one or more RRCs. A score of “5” means very high importance and a score of “1” indicates low importance and that this service should not be strongly considered for initial RRC operations

\*\*Hosting data or services could make use of computer hardware, software, and network infrastructure owned and maintained by the RRC or managed by a cooperating organization. There is also an opportunity to provide such services using hardware and software provided by separate data center (under a lease or subscription agreement) or user of emerging “cloud” services in which the RRC, for a fee, taps into server and software services by a cloud provider. Under these environments where the hardware and software is not directly managed by the RRC, the RRCs role would be one of management and oversight.

### 3.2 RRC Customers and Users

Input from participants suggests that the primary users or customers of RRC services are local governments (municipal and county governments) with a focus on the smaller, low-resourced jurisdictions that need additional support in GIS development and operations.

**\*\*Reviewers: please provide ideas to help define “RRC customers”. Review the Table above and provide comments about use of RRC services by: state or federal agencies and their regional or district offices, private sector consultants, GIS database development firms, regional agencies (COGs, MPOs), not-for-profit organizations.**

## 4. FORM OF ORGANIZATION, FACILITY OPTIONS, AND RRC RELATIONSHIPS WITH OTHER ORGANIZATIONS

### 4.1 Organization Type

There is general consensus that RRCs need to have a physical presence with adequate facilities and staff resources to provide basic services and ideally, an administrative and legal structure that would provide project support, contract management, and financial management connected with potential RRC services. This consensus on a physical presence and administrative structure may eliminate the option of the RRC as a “virtual organization” based on volunteer management and staffing with no dedicated facilities or physical location. Current regional GIS user groups operate in this mode. Proposals for development of RRCs in Idaho’s Eastern, Southeastern, Southwest, and North regions (see <http://gis.idaho.gov/IGO/regions/regions.htm>) provide initial suggestions for “organizational homes” or existing facilities that might support RRC operations. These include:

- North Idaho: mention of role for the Uofl Cooperative Extension program (Uofl Moscow), U of I-Library, CDA Tribe, County Extension Offices
- Eastern Idaho: Cites facilities of University Place in Idaho Falls as possible location for RRC administration and possible use of facilities of BYU-Idaho Falls and the East Central Idaho Planning and Development Association
- Southeastern Idaho: Identifies the existing GIS Training and Research Center (TreC) and Idaho State University-Pocatello
- Southwest Idaho: Proposal indicates that initially, a fixed location is not essential. Calls for use of resources and facilities from regional participants (e.g., Ada County Highway District, Sage Community Resources, Boise State University).

In all cases, the proposals call for an evolution of the RRCs with an initial reliance on existing organizations and facilities. Table 2 describes possible models and options for “organizational homes” for RRCs.

**Table 2: Possible RRC Organization Types**

**\*\*Reviewers: Please examine the table below and provide comments about the suitability of the different organizational options. Consider such factors as administrative expediency, compatibility of missions, requirements for staffing and resourcing, etc.**

Organization Type	Description	Suitability
<b>A. Informal, “Virtual” Organization</b>	RRC does not have a fixed location or a highly formal administrative structure. RRC work and activities uses volunteer contributions of time and resources. This is similar to the way in which existing regional GIS User Groups are organized. If this option was chosen, the logical approach would be to re-define the mission and operations of these Regional GIS User Groups to take on high-priority RRC services.	In the short-term, this option may be feasible for some or all regions since it implies minor adjustments to current GIS User Groups. This is not an acceptable long-term option since resources would be limited and lack of a formal organizational structure would restrict RRC activities requiring legal and financial management.
<b>B. Existing University-based program</b>	RRC roles and activities would be assumed by an existing University-based program. The stated missions of existing programs would be modified to reflect RRC responsibilities, additional resources (as available) would be applied, and RRC administration would be assumed by the existing University program. Potential candidates include: a) the ISU GIS Training and Research Center (TreC), b) the UofI Library (INSIDE Idaho), c) UofI Extension System.	This is a viable option for initial and long-term RRC development and operations—at least for certain RRCs. It is attractive since it does not require the creation of a new organization and the compatibility of the existing programs with the RRC mission. In addition, this option may provide the most efficient resourcing approach by use of existing facilities and a University-based labor pool.
<b>C. New University Program</b>	This option is similar to Option B but requires the establishment of a new program (either tied to an academic department or a non-academic office at a designated University. It would require creation of a separate management and administrative structure and assignment of personnel.	This is a viable option and has the advantage of focusing the RRC mission through a new program. It has the disadvantage of requiring more time and complexity in creation, the need to assign dedicated resources, and potential barriers in sharing resources with existing GIS-related programs.
<b>D. Existing Regional Organization</b>	This option would place the governance and operational management of an RRC in an existing regional agency that serves a quasi-governmental role that is compatible with the RRC mission and which has responsibility over an area that generally corresponds to the RRC area.	This is a possibility for some RRCs. In fact, some of the RRC proposals have cited the geographic areas of regional agencies (Idaho Economic Development Association regions) as a basis for RRC territories.
<b>E. Multi-organizational Consortia</b>	This organization type is established and defined through a multi-party agreement, signed by organizations in the region that pledge commitment to the agreements terms. These terms would address participation in RRC activities, contributions of resources (money, staff, facilities), approaches for joint project work, and other provisions. This option would require a management and administration function which could be formally assigned to one or more of the parties of the agreement or the establishment of a non-profit organization (see Option E).	This is a viable option for RRC establishment and has the advantage of clearly defining participation and commitments by organizations in the regions. It has the disadvantage that it does not necessarily define an administrative and legal authority—one party would need to take this role or a new organization would need to be created. This option could be used with any of the other RRC options, to define roles and relationships among participating jurisdictions in the region
<b>F. New Non-Profit Organizations</b>	The RRC would be established as a formal, Non-Profit Organization under Section 501 of the IRS Tax Code* (Note: there are a range of Non-Profit categories under Section 501). The 501 provisions establish the organization as Tax Exempt and allow it to assume legal and financial management responsibilities.	This is a viable option since it provides a suitable foundation (with necessary management, legal, and financial provisions) for all potential RRC operations and services while preserving a tax exempt status. The main disadvantage is complexity of creation of a new organization and the need for assignment of resources (as opposed to having access to resources of an existing organization).

\*For more information about Non-Profit organizations see [www.muridae.com/nporegulation/documents/exempt\\_orgs.html](http://www.muridae.com/nporegulation/documents/exempt_orgs.html) and [www.irs.ustreas.gov/charities/index.html](http://www.irs.ustreas.gov/charities/index.html)



**\*\*Reviewers:** Please examine the table above and provide your ideas about the advantages and disadvantages of the different organization types. Some specific questions are:

- For your RRC region, what is the most appropriate option—for initial RRC creation and longer term RRC operations?

-Are there existing regional bodies (see Option D) that could provide an “organizational home” for RRCs (in one or more regions)?

-Are any of the existing Regional GIS User Groups now established as IRS 501 Non-profit Organizations? With the creation of RRCs (whose regions correspond to existing Regional GIS User Groups) will the User Groups continue to exist or will the RRCs assume the role no played by the User Groups?

-What role could the University Place (Idaho Falls) play for establishment of the Southeast RRC? Is there an existing University Place program that could assume the RRC role?

-What role could the Uofl Extension Program play in RRC support? Could the Extension Program provide “organizational homes” for RRCs. If so, would this work only for a North Idaho RRC (Extension Program at Uofl-Moscow)?

## 4.2 RRC Facility Needs

There is a general consensus among project participants that RRCs have a physical presence and sufficient facilities to support their mission (at least in the future if not at the initial formation of an RRC). While the specific facility needs will vary among the RRCs, input from participants implies the need for office space, meeting and training facilities, and system resources (computer server, peripheral devices, software, network access), as well as furniture and supplies. The issue of how to provide for these facility needs has not been fully determined although the RRC proposals (see <http://gis.idaho.gov/IGO/regions/regions.htm>) are open to the possibility of using facilities and system resources maintained by another existing organization.

**\*\*Reviewers:** Please provide ideas about facility needs (space, computer hardware and software, equipment). Would an RRC need to “own” and manage these facilities initially or in the future? For your region, what are the best options for a physical presence and what steps would be necessary to put this in place?

## 4.3 Relationships with other Organizations

The fundamental nature of RRCs implies that they should operate with effective relationships and coordination with other public and private organizations. The RRCs are one part of the Idaho Map (TIM) program. It is important that they operate in a manner that supports the TIM mission. RRC relationships with other organizations may be categorized as follows:

- **Outside Support (OS):** Outside organization contributes funding or non-monetary resources (system, equipment, facilities, labor) in support of RRC services and administration
- **User/Customer (UC):** Outside organization uses RRC services and products
- **Participation (PA):** RRC participates or is represented in programs and activities of outside organization
- **Oversight (OV):** Outside organization has responsibility for reviewing and reporting on RRC status

Table 3 summarizes the likely roles for different categories of outside organizations.

**\*\*Reviewers: Please provide your input on RCC relationships in the table below**

**Table 3: Likely RRC Relationships with Outside Organizations**

Organization Category	Relationship*				Description <b>**Reviewers: please provide comments</b>
	OS	UC	PA	OV	
IGO	P		P	P	
Idaho Geospatial Council			P	P	
Federal Government	P	S	S		
State government	P	S	S		
Local government	S	P	S		
Regional Agency	S	P	S		
Tribal Government	S	P	S		
University (including all academic and non-academic programs)	P	S	S	P	
Private Sector Users of GIS	P	P			
Public and Private Utility Companies	P	P			
Vendors/ Consultants-GIS Products/Services	P	S			
Non-Profit Organizations		P			
Other RRCs	P		P		
Professional Societies		S	S		

\* "P" denotes a primary type of relationship (most important and frequent) and "S" denotes a secondary or less important relationship. OS=outside organization provides support, UC=user or customer of RRC services, PA=RRC participates in programs and activities of outside organizations, OV=Oversight role on RRC operations by the organization

## 5. FUNDING SOURCES

So far in this business planning project, there has not been a large amount of discussion about RRC funding sources. The GIO has indicated that there is a pending request with the Idaho legislature to approve \$150,000 for RRC development and operation. There is no indication at this point that these funds will be approved. Funding requirements depend on the type of level of services that is planned for the RRCs. Since it is likely the RRC services will grow and change over time, funding needs will also change. There is a general feeling that RRCs will require state government funding through a general fund budget item, to enable RRCs to provide most of the high-priority services. Funding would be used for: a) purchase and maintenance of computer systems and software, b) facility and equipment, c) direct operating expenses (e.g., costs for meetings and events), d) Non-donated labor/staff costs.

It is the view of the consultants that RRC services and activities will always require and benefit from volunteered time and donated or shared use of existing systems and facilities. But it is important to identify sustained and one-time allocations of resources from such sources as:

- State of Idaho general fund allocation for RRCs
- Grant funding for GIS-related planning and implementation

- Fees for specific services (e.g., training sessions, project management services for funded GIS development work, data or application hosting services)
- Sponsorships from GIS vendors or other public/private organizations
- Reimbursements for “consulting services” provided by RRC personnel

Appendix B presents excerpts from a presentation by Peter Crowell at the June 24 Idaho GIS Forum in Pocatello. This presentation identifies possible options for GIS program funding and resourcing, some of which may be appropriate for RRCs.

**\*\*Reviewers: Please give more thought to options for funding and providing resources for RRC operations and provide your ideas.**

## 6. BUSINESS PLAN FORMAT AND CONTENT

The complete outline for RRC Business Plans, proposed by the Crowell-Schulte consultant team may be found at: <http://giscenter.isu.edu/research/Techpg/caprrc/results.htm>. The main sections of the proposed outline are summarized below.

**\*\*Reviewers: We encourage you to examine the detailed outline and provide any comments about business plan content and format.**

### 1. Business Plan Background and Purpose

- Background information on the ISDI and how the RRCs fit in with the overall ISDI organizational/governance structure.
- Purpose of the business plan and summary of contents
- Brief description of RRC goals and objectives
- Geographic scope (“service area”)

### 2. RRC Services, Users, and Business Justification

- Description of all services and products to be provided by the RRC. Will make a differentiation on core services on which implementation will focus as well as lower priority services that might be provided initially or in the future
- Characterization of users and “customers” that the RRCs will or may serve and their interest in different types of products and services
- Assessment of level of demand and projection of volume for different services over time
- Identification of benefits (tangible and intangible) derived from RRC services and a business case for moving ahead with implementation

### 3. Resource and Operational Needs for RRC Operation

- Description, categorization of the resources (facilities, system, equipment, staff)
- Requirements and options for space and facilities for housing RRC operations
- System requirements: servers, workstations, network, data access, and other system resource requirements
- Requirements for management, technical staff, administrative support and options for fulfilling these requirements—including different types of staffing options (e.g., permanent staff, temporary/part-time positions, student labor, volunteered support from outside organizations)

### 4. Recommended Organizational/Operational Model and Implementation Phases

- Recommendation on organization type or form (University program, non-profit organization with University affiliation, etc.). Description of legal and institutional basis, and characteristics for RRC creation and operation.
- RRC management roles and staffing
- RRC location, facilities, space, equipment, system components, upkeep/maintenance requirements
- Organizational relationships and partnerships with outside organizations (e.g., University administration, IGO, IGC, state)

agencies, local governments, private companies)

- RRC Operations: recommended practices and policies that guide day-to-day operations (e.g., hours of operations, how requests for services are taken and responded to, accounting, etc.)
- Procedures for monitoring operations and services provided, measurement of success against RRC objectives, monitoring user satisfaction, status reporting, etc.

## **5. Implementation Steps, Timing, and Cost Projections**

- Tasks and steps leading to implementation and task dependencies
- Responsibilities for implementation activities
- Cost projections for implementation and a projected annual budget for RRC operations. Costs and budget will be broken down into applicable categories in a way consistent with accounting practices of parent organization

## **6. Financing Strategies and RRC Promotion**

- Funding and resource requirements by implementation phase
- Options and potential sources for funding and in-kind (non-monetary) contributions
- Recommendations on funding sources and financing strategies. Will identify level of current availability and actions that need to be taken to secure necessary funding
- Approaches, media channels, and promotional activities to increase awareness of RRC, its services, and how to access them

## APPENDIX A: SUMMARY NOTES FROM RRC MEETINGS AND SURVEY

**\*\*Reviewers: Please provide edits that correct or elaborate on the summaries below. If you participated in any of these information gathering activities and your name is not shown, please feel free to add it.**

This Appendix provides summary notes from the following:

- RRC business planning kick-off meeting on June 23 in Pocatello
- RRC discussion at the North Idaho GIS User Group meeting on June 28
- Results of a Web-based survey deployed and managed by the Idaho project team

### A1. Summary Notes from RRC Project Kick-off Meeting

Date and Location: June 23, GIS Training and Research Center (TreC) at ISU Pocatello (with remote participation)

Meeting Participants:

Dave Williamson, City of Post Falls
Sherry Lufkin, Jefferson County
Rayce Ruiz, ITD District 6
Craig Rindlisbacher City of Rexburg
Dawn Leatham, Bonneville County
Frank Roberts, Coeur d'Alene Tribe
Martha Mousel, Targhee Forest Service
Dennis Hill, City of Pocatello
Stewart Ward, Dioptra
Dan Spinosa, Bonner County
Eric Smith, Memory Media
Bonnie Moore, City of Rexburg
Gail Ewart, GIO
Donna Pitzer, Bureau of Reclamation
Keith Weber, ISU-GIS TReC
Joel Hall, Blaine County

Bill Masters, GIS Quality Design & Consulting, Inc.
Eric Verner, ITD District 6
Brian Holmes
Brent Saurey, Madison County
Debbie Karen, Jefferson County
Kindra Serr, ISU-GIS TReC
Wanda Quinn, Uof I Extension Program
Mike Howell, UofI Extension Program
Jim Hetherington, City of Boise
Jimae Haynes, City of Boise
Anne Kawalec, Ada County
Dan Narsavage, Ada County
Jack Clark, Ada County
Tom Lenderink, Bonneville County
Garn Hendrick, Computer Arts Inc.

Summary Notes:

- The meeting began with a review of the current status and activities of East Idaho Regional GIS organization (EIRGIS), the Southeast Idaho Regional GIS User Group (SEIRGUG), and the ISU GIS Training and Research Center (GIS TreC). These groups have been responsible for preparing proposals for the Eastern Idaho RRC and the Southeast Idaho RRC
  - Meeting participants from the eastern Idaho region explained that the EIRGIS is 2 years old and was formed to encourage collaboration among organizations in the region with a focus on improving the quality and availability of GIS data (see [www.eirgis.org](http://www.eirgis.org)). EIRGIS representatives have participated in ISDI technical working group activities and other collaborative projects that serve GIS users within the regional and throughout the state.
  - The Southeast Idaho Regional GIS User Group is a loosely organized group formed to encourage GIS collaboration among the 10 southeast counties of the state. Participation has been low. It

was mentioned that the proposed RRC could serve as a foundation to spur participation and collaboration on worthwhile GIS activities

- The ISU GIS Training and Research Center (GIS TreC) is associated with ISU's Department of Geosciences and is organizationally placed under the ISU Dean of Research. The GIS TreC has the stated mission, "...to facilitate decision-making through the use and application of state-of-the-art geospatial technologies". The research part of TreC's mission focuses on the use of GIS data and tools for land management. TreC training activities support ISU academic programs as well technical training and workshops for GIS users and practitioners in the region and throughout the state. The GIS TreC maintains an enterprise server with high-capacity storage, processing, and network bandwidth.
- There was brief discussion of University Place in Idaho Falls which was cited as a possible location for Southeast RRC operations. A potential role for University Place in RRC development has not been fully explored. University Place is a campus in Idaho Falls that offers academic programs from **three?four** Universities (ISU, UofI, and Eastern Idaho Technical College, **BYU-Idaho?**). It was mentioned that courses are not offered in the summer so faculty and staff would not be on-site at this time. **\*\*Reviewers: We can use more ideas and information to follow-up on the potential role for University Place. What are appropriate contacts to explore further?**
- The Idaho Tax Commission was identified as an important player in local government GIS programs and that a more prominent role could be played by the Commission to establish standards and supports for parcel-based GIS projects at the County level. It was not clear how this observation impacts RRC development.
- The topic of RRC "service areas" was discussed and a question was proposed on whether the service areas are fixed or may change and if there will be restrictions on a given RRC providing services to people or organizations outside of its territory. While the areas for the Eastern and Southeast RRC are well defined, it is assumed that they will work will coordinate their activities, share resources, and collaborate on projects. There will not be strict prohibitions limiting RRC services outside of their service area
- Potential Services: Possible roles and services to be provided by RRCs were discussed and a summary is provided below:
  - GIS training: Ideas were mixed on whether RRCs should be responsible for conducting GIS training (technical SW training, GIS concepts, GIS management). There was not a clear consensus on the role RRCs should play. The GIO mentioned the concept of "shared services" roles identified in the Strategic Plan which placed responsibility for GIS training at the ISU GIS TreC. **\*\*Need additional ideas about possible training roles for all or some RRCs. If the RRC does not actually conduct training, is there a role for assessing training needs, identifying training opportunities, organizing/facilitating training sessions?**
  - Professional networking/mentoring: There was a consensus that RRCs need to play a role in facilitating professional networking and mentoring. More specifically, this would include a Web-based contact directory of GIS professionals with sufficient information about experience and areas of expertise to provide a means persons needing help or advice to connect with other GIS professionals.
  - Information on GIS Projects and Best Practices: There was interest expressed in about providing a Web-accessible "library" of project successes and lessons-learned and technical and management best practices. The idea is to provide this information to aid practitioners who are planning similar projects. This idea of facilitating adoption of "best practices" was illustrated in discussions about conveying information about sound database design and stewardship standards and practices. Also, the idea of providing information on GIS position descriptions
  - Consulting pool: Extending the idea of "professional networking" the idea of offering consultation services by current GIS practitioners (e.g., a GIS professional in a city or county government providing services to another jurisdiction in areas of system/software configuration, application deployment, etc.). This would differ from simple networking in that it implies more than basic advice but more time-intensive work and likely on-site visits. The idea is to fully utilize the knowledge and experience of GIS practitioners in the state to help the development and

operation of GIS programs in other jurisdictions. This would likely include the possibility of remuneration for such services. The RRC could play a role in connecting parties and possibility managing the financial side of remuneration for services. There were mixed feeling about such a service. Several participants mentioned that it could create unfair competition with private companies offering GIS consulting services

- Projects in Waiting: There was mention during the meeting of the converse of the “GIS Project/Best Practices Catalog” below. I.e., a list of participants’ “Projects in Waiting”. Those projects/tasks that they have on the shelf that they can’t complete or get started for some reason or another, be it resourcing, a lack of experience or budgetary in nature. I’m not sure how it would work in practice though. It may only be useful as a planning tool for future RRCs to develop programs to assist their users/participants.
- Facilitation of Joint Projects: There was brief discussion of a role for RRCs in organizing, facilitating, and management of joint projects (e.g., database development involving multiple counties and/or cities). There was general consensus that this should be a role for RRCs but details were not defined. **\*\*Reviewers: can you provide additional input on this?**
- There was general consensus that RRCs need to have a “physical presence” with sufficient resources (including computer hardware and software). For the Southeast Region, interest in establishing the RRC at ISU, to work in conjunction with the GIS TreC. The question was posed whether this would require establishing a new program or office of ISU or whether the RRC could be part of an augmented TreC program (avoiding the administrative steps and resourcing concerns of forming a new program)
- Other ideas for an “organizational home” or organizational support for RRCs, cited existing “quasi-governmental bodies” (COGs, MPOs, economic development associations) and Idaho’s Cooperative Extension Program which is managed from UofI but which has offices and services statewide.
- There was some discussion of “cloud computing”—use of remote servers and storage capabilities via high-speed Web-based network links in a “virtual environment” (sharing of computer and storage resources in an environment where there is not a dedicated server). This is tied into the concept of “software as a service” (SaaS) in which software is not stored locally but used from another location (often subscription and fees for use). It was observed that this strong trend is impacting GIS as well as other IT areas and system resources established for RRCs and used by GIS programs need to take this into account in system procurements and upgrades.
- Grant Administration: The possibility that RRCs could play a role in grant application and managing grant funds was proposed. This would reduce requirements for specific jurisdictions to manage projects that use grant funding.
- Funding: The GIO mentioned that a budget request has been submitted to the Idaho Legislature that would provide \$150,000 for RRC development and operation. At this time, there is no certainty that this will be approved.
- There was full agreement that RRCs need to maintain their identify as one part of the ISDI (TIM) and that communication with the IGO and participation on IGC activities is important.

## A2. Summary Notes from RRC Discussion at the North Idaho GIS Users Meeting

Date and Location: June 28, University of Idaho Library, Idaho State University-Moscow (with remote participation)

### Meeting Participants:

Bill Reynolds, GIS Coordinator, Nez Perce County	Dave Williamson, City of Post Falls
Tom Vestal, GIS Technician, Nez Perce County	Vera Williams, Owner, Surface Water Solutions, Inc
Carolynn Park, Cert Cartographer, Idaho County	Gail Ewart, GIO, Idaho Geospatial Office
Ed DeYoung, Idaho Dept of Lands	Pete Croswell, Croswell-Schulte IT Consultants

Sheila Key, GIS Tech, Idaho County
Angela VanderPas, IT Admin, Clearwater County
Jason Trook, CDA Tribe
Laurie Ames, Nez Perce Tribe
Frank Roberts, CDA Tribe
Mark Larson, CDA Tribe
Jennifer Grew, GIS Tech, CDA Tribe
Loudon Stanford, GIS Manager, Idaho Geologic Survey
Berne Jackson, CDA Tribe
Donna Phillips, GIS Coordinator, City of Hayden
Bruce Godfrey, UI-Inside Idaho

Wilma Robertson, Framework Coordinator, IGO
Eric Smith, Memory Media
Dave Christianson, GIS Manager, Kootenai County
Dan Spinosa, Bonner County
Jay Young, City of Nampa
Wanda Quinn, Uofl Extension Program
Michael Howell, Uofl Extension Program
Deb Smith, <b>**organization?</b>
Brant Steigers, GIS Manager, Potlatch Corp
Dave Williamson, City of Post Falls

Summary Notes:

There was considerable discussion and desire by participants for the RRC to play a role in Framework Stewardship—perhaps coordinating source data submittals from Source Stewards (mainly county, city governments), performing basic QA, and packaging data update submittals to the designated Framework Steward. This is seen as a major way to support Framework data stewardship and to enable more effective participation by Source Stewards (mainly local government organizations)

- Acknowledgement and consensus that RRCs can be effective in providing face-to-face support, and mentoring with and support to local governments in the region. The issue of geographic proximity is seen as a major advantage of RRCs in enabling/facilitating professional networking and communication among participating entities in the region
- There was consensus that RRCs be clearly defined as entities that are part of the Idaho Map (TIM) program and that RRC coordination with the IGO and representation on the IGC is very important.
- Reviewed the main statement in the SDI Strategic Plan that describes the intended role of the RRCs (p.29):
 

“... act as points of coalescence for GIS user organizations in different areas of the state and help to connect local activities with the statewide SDI program. They will be supported by existing institutions or groups (e.g., universities, existing regional GIS user groups) that have GIS resources sufficient to provide some support to users. They would provide a number of services and support functions, including: a) answering technical questions for users, b) providing some general "consulting" support and advisory services for organizations in the process of GIS development, c) training sessions, d) site for meetings and special SDI events, and e) aggregate and serve regional Framework data These centers can be established and put in operation over a period of time as they are needed and as resources permit. It is expected that these centers will include staff and technical system resources. It is also expected that they will provide “virtual services” through the Web (i.e., Web-based information, links, contacts, blogs, etc.) that address the needs of users in specific regions of the state. The coordination and support now provided by regional GIS user groups will be a foundation for Resource Center development.”
- Good discussion about the role that could be played in RRC management and coordination by the University of Idaho based Extension Program—with possibility that a Geospatial specialist position could be established. Wanda Quinn discussed a survey that was recently conducted on Extension Programs in other states and their involvement in statewide geospatial programs. Pennsylvania was cited as an example in which the Extension Program has been positioned to play a major role in GIS support and coordination. Also mentioned were the states of New Hampshire and South Carolina. The general theme in this discussion is that the mission of the Extension Program does support a potential role in statewide GIS and RRC activities and there is interest in considering such a role. Ms. Quinn cited Mike Howell, Regional Director, as a key contact.



- There was some discussion of funding approaches but no clear conclusions on the source of funding to support RRC operations. GIO Ewart indicated that there is a state funding request being considered but at this point, no certainty that it will be approved.
- The concern was also expressed that some local jurisdictions with active GIS programs would likely be hesitant to provide funding to support RRCs. Those jurisdictions that play a role of Source Steward for statewide Framework themes already contribute staff time to the statewide Framework effort and that contributions of funding would not have a significant return. Some meeting participants underscored the value of statewide data to support programs benefitting from cross-jurisdiction data such as public safety, emergency management, environmental analysis, and economic development.
- There was discussion that RRCs need to be run in an “opportunistic” manner—flexible in allocating resources as opportunities come up.

### **A3. Web-based Survey Summary (responses as of June 30)**

The Web-based survey, developed by Eric Smith, has been available for access since the 3<sup>rd</sup> week of June at <http://www.surveymonkey.com/s/RZ5RH8Q>. As of June 30, approximately 50 responses have been received and a summary of these responses is provided below.

Note: The survey did not require respondents to enter their name or organization.

#### **Summary of Survey Responses (as of June 30):**

##### **1. Which of the following most accurately describes your organization?**

- Local government 43.50%
- State government 21.70%
- Private Sector 16.30%
- Federal government 10.90%
- Academia 5.40%
- Non-profit Organization 2.20%

##### **2. Which of the following most accurately describes your familiarity with Geographic Information Systems (GIS)?**

- Advanced 59.80%
- Intermediate 33.00%
- Novice 7.20%

##### **3. Which of the following activities are functions of your organization?**

- We produce maps for the benefit of others 82.80%
- We produce maps for our own benefit 79.60%
- We are spatial data producers 78.50%
- We are spatial data consumers 62.40%
- Maps produced by others help guide our business decisions 31.20%
- We produce maps but do not analyze them 11.80%

##### **4. Does your organization rely on or benefit from participation in regional activities or partnerships?**

- Yes 87.40%
- No 12.60%

##### **5. What types of services would you expect to see in a Regional Resource Center?**

- Regional data repository 75.00%
- Development and implementation of SDI standards 61.90%
- Function as part of a two tiered process for statewide data aggregation and exchange 57.10%

- Project mentoring 48.80%
- Regional Planning facility 46.40%
- Software technical support 46.40%
- Regional mapping service 42.90%
- Economic Enhancement tool 38.10%
- My organization could enlist technical services and support for specific projects with GIS functions from the RRC 38.10%

#### **Comments on RRC services**

- *Facilitator for multi-entity projects, expertise reference center*
- *Assistance in preparing local data for incorporation in framework datasets*
- *I don't believe we need a regional resource center. Better to empower each group to self-sustain.*
- *Maybe all of the above*
- *Where regional is in the heading these functions should also be available through a statewide clearinghouse*
- *Mentoring start-up agency GIS's*
- *Consolidate Public Safety information for Mitigation, Preparedness, Response, and Recovery*
- *What SW Idaho REALLY needs is some official "facilitator" for inter-governmental (multi city/county) efforts. Help!!*
- *Training center*
- *I don't see the need to create regional resource centers. If I need something from someone in the region, I contact that person and we take care of it. Creating Regional Resource Centers is a waste of Time and Money. You are only creating additional bureaucracy that will create confusion within the GIS community.*

#### **6. How likely would your organization contribute funding to support an RRC?**

- Hard to say 47.20%
- Not likely 41.60%
- Likely 14.60%

#### **7. How would you expect an RRC to be funded?**

**Summary of Responses about Funding:** Reading through responses gave a strong impression that the users of the RRC expect it to be supported by government funds. Single source answers are in the following rank: State (by far), Grants, User fees. Federal and local government agencies are often referred to as supplemental sources to the State. Several comments suggest that any user of the RRC should provide support, including private sources, but no responses indicated the private sector as a source alone. Sensitive and spirited issues are mentioned in the following areas: RRC funded in part by private sector & Tax funds could create an unfair advantage to private competitors; RRC adds level of bureaucracy; Already limited funding stretched even further.

## APPENDIX B: POTENTIAL FUNDING AND RESOURCING STRATEGIES FOR GIS PROGRAMS

Excerpts from presentation at the 2010 Idaho GIS Forum.

### FINANCING AND RESOURCING STRATEGIES FOR GIS PROGRAMS

Idaho 2010 GIS Forum

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#### Question

What are the best ways to find and deliver necessary funding and resources to support a GIS program?



#### Basic Tenets on Funding and Resourcing GIS Programs

- Money is almost always tight and there is always competition for available resources
- Even when money isn't so tight, work hard to establish justification for continued or increased funding
- Be creative in exploring sources for funding and resources
- Make a business case and promote it with the right audiences
- Seek support from users and organizations that can help make the business case (testimonials from users and outside groups can make a big impact)
- Success fosters more support and success (but be careful.....)

## Factors to Consider in Review of GIS Program Funding Sources and Mechanisms

- History—Funding approaches relative to past precedents and acceptance
- \$ amount opportunity
- One-time or on-going?
- Legal complexity/limitations and political acceptability
- Organizational relationships among participants and user organizations
- Administrative complexity and resource requirements—to set-up and manage

## Different Forms of Money

### Cash



### Staff Time



### Donated or In-kind Products/Services



### Efficiency Improvements

(reduce costs and do more with existing resources)



## ALLOCATION FROM NON-GENERAL FUND BUDGETS OR SPECIAL FUNDS

<b>Brief Description</b>	Designation of portions of non-general fund budgets to support GIS development and/or operations.
<b>Constraints</b>	Designated GIS expenditure must be aligned closely with the mandated purpose of the special fund. Requires budget submittal, justification, and approval. Subject to financial pressures, internal competition for fund use, and political factors that impact budget approvals. Non-general fund sources are not always applicable to ongoing operations costs (e.g., many capital budget items used specifically for GIS development purposes).
<b>Frequency/Importance</b>	Very frequently used by government agencies and public utilities.



## JOINT FUNDING/PROJECT PARTNERSHIPS WITH OUTSIDE ORGANIZATIONS

<b>Brief Description</b>	Up-front, joint funding for common GIS development work (usually database development) by multiple agencies. Each agency contributes an amount based on agreed cost allocation and shares in ownership of the product.
<b>Constraints</b>	Considerable consensus-building and negotiation. Requires formal agreement among parties and designation of lead management agency. Requires administration of joint ownership and use.
<b>Frequency/Importance</b>	Used frequently for GIS database development (at least 20% of public agency programs) and for wide area network development.



## GRANTS

<b>Brief Description</b>	Money provided to an organization for a specific purpose based on meeting certain objectives of the funding source and the criteria documented in a grant application. Grants for GIS and information technology typically come from federal and state government agencies but may also come from private or not-for-profit sources.
<b>Constraints</b>	Requires research and grant application work and often a competitive selection process. Grant acceptance sometimes requires matching funds. Use of grant money has restrictions and well-defined tracking and accounting procedures must be used.
<b>Frequency/Importance</b>	Often used by government agencies—roughly 30% of GIS programs have used grant funding. In many cases the amount of grants are small.



## BONDS

<b>Brief Description</b>	Funding approach supplying up-front costs for development projects through sale of bonds. "General Obligation Bonds" are most common and involve a public agency pledge to pay off bonds over a specific period of time using its taxing or other revenue-generating powers. Revenue bonds have also been used in some cases. Most appropriate for providing major funding for large database and system development efforts, not ongoing operations.
<b>Constraints</b>	Requires legislative and sometime public approval and a secure pay-back mechanism. Significant administrative overhead in managing bond sales.
<b>Frequency/Importance</b>	Not extremely frequent for GIS projects but have been a major source of development funding in a number of successful systems.



## SALE OF GIS PRODUCTS AND SERVICES

<b>Brief Description</b>	Revenue generation from direct sale, to external organizations and users, of products and services from the GIS program. May include standard or custom data sets, map products in hard copy or digital form, fees for special projects, access to Web-based applications.
<b>Constraints</b>	Public sector organizations may be limited by their state's open records laws to charge fees for GIS products and services. To be successful, demands assessment of the "market", promotion and advertising, and administrative/accounting procedures to handle track transactions and receipts. Local governments selling GIS products and services may conflict with statewide efforts to provide open access to government data
<b>Frequency/ Importance</b>	Frequent—by roughly 25% of public agency GIS programs that are owners of commonly used GIS data sets. Not all of these license agreements involve monetary fees. Some may involve in-kind contributions of data or services by licensee.



## DATA LICENSING OR SUBSCRIPTIONS

<b>Brief Description</b>	An organization that has ownership of a database (licenser) extends rights to user agencies (licensees) to use data under specified terms documented in a license agreement. License agreement has terms that define the data product and mode of delivery, limitations of use, and fees (optional).
<b>Constraints</b>	Licenser agency must fund database development effort and establish data ownership. May be limitations in State Open Records or FOIA law that limit charging of fees. Other legal constraints may govern terms included in license agreement.
<b>Frequency/ Importance</b>	Frequent—by roughly 25% of public agency GIS programs that are owners of commonly used GIS data sets. Not all of these license agreements involve monetary fees. Some may involve in-kind contributions of data or services by licensee.





## SPECIAL TRANSACTION FEES


<b>Brief Description</b>	May include a fee, or allocation of part of a fee, collected on a government transaction (e.g., permit application, filing fee). Recorder or Register of Deeds filing fees have been used successfully in a number of other states to fund GIS programs.
<b>Constraints</b>	May require local ordinance or State legislation. Must be placed in special fund designated for use in development or operation directly tied to the specific program under which the transaction falls. Amount of revenue subject to changes based on economic conditions, seasonal cycles, etc.
<b>Frequency/ Importance</b>	Often used—by roughly 10% of public agency GIS programs. Amount of revenue varies widely among different jurisdictions.





<b>MORE EFFECTIVE USE OF EXISTING STAFF</b>	
<b>Brief Description</b>	Reduce staff downtime and increase productivity through: <ul style="list-style-type: none"> <li>- improved planning, management, supervision of GIS personnel</li> <li>- providing better tools (software, hardware)</li> <li>- improvements in work environment</li> <li>- continued training and education</li> <li>- enhancing morale and employee satisfaction</li> </ul>
<b>Constraints</b>	Highly dependent on management skills of GIS manager, documented plans and management practices, and authority of GIS manager to provide better tools, training, and enhancements of physical office environment.
<b>Frequency/Importance</b>	Very important but not used nearly enough.

<b>USER FEES</b>	
<b>Brief Description</b>	GIS lead agency provides system access and associated support services to user offices and charges fees. Fee may be a fixed "assessment" or "metered use" based on monitoring of usage and tabulation of defined metrics (staff hours used, access to Web-based services, data downloads). User office is "billed" for time and/or system usage based on agreed-upon rates.
<b>Constraints</b>	Requires formal policy and user department acceptance.
<b>Frequency/Importance</b>	Used in many cases by government agencies for general IT services and support (chargeback arrangements) but used only infrequently for GIS programs.



<b>USE OF NON-TRADITIONAL STAFFING OPTIONS</b>	
<b>Brief Description</b>	Use of methods and programs to obtain staff services using non-traditional means (other than full-time salaried staff). Such staffing approaches can often be less expensive, more flexible, and administratively less complex. Includes such approaches as: a) student interns/coops, b) part-time, or seasonal positions, c) contracted or temp services, d) volunteers, e) "borrowed" staff from other Depts.
<b>Constraints</b>	Highly dependent existing personnel laws and policies and flexibility given to GIS manager to make staffing decisions. Also impacted by labor supply pool (availability of people with needed skills and experience).
<b>Frequency/Importance</b>	Very important and used at a moderate level but In general, GIS managers do not fully explore opportunities

### STANDARD PUBLIC PROJECT FEE OR ASSESSMENT

<b>Brief Description</b>	Standard fee assessed and collected from private submitter for infrastructure or land development project (e.g., plan submittal, deed registration) with justification that GIS supports private sector land development design. This is similar to the use of permit fees but expands this concept to apply a significant but reasonable fee for major development projects.
<b>Constraints</b>	May require local ordinance or state legislation. Must be placed in a special fund designated for use in GIS development and support directly tied to support for private land development work.
<b>Frequency/Importance</b>	Infrequent. Could be a significant annual revenue source.



### COMPUTING INFRASTRUCTURE SHARING OR CONSOLIDATION

<b>Brief Description</b>	Strategy for cost reduction and possible revenue through joint use of computing infrastructure or applications with another department or organization. Also driven by hardware and software consolidation that can result in reduced software license and maintenance costs.
<b>Constraints</b>	Dependent on high-speed reliable network links and sufficient computing or network capacity to support joint use. Also requires a formal agreement and monitoring of service. Consolidation requires detailed analysis of existing infrastructure and consensus among departments to relinquish existing hardware and licenses.
<b>Frequency/Importance</b>	Growing, aided, and abetted by technology enhancements, e.g., Web-based service-oriented architectures, cloud computing.



### VENDOR DONATIONS AND SPECIAL PROGRAMS

<b>Brief Description</b>	Providing of free or discounted prices for a range of products and services provided by GIS vendors (e.g., software licenses, training services, hardware, etc.). May result for case-by-case negotiations or part of standard vendor programs (educational discounts for educational institutions, "small municipality" discounts).
<b>Constraints</b>	Subject to existing discount program eligibility or willingness of vendors.
<b>Frequency/Importance</b>	Used frequently by government organizations and educational institutions which are eligible for discount programs





### ADVERTISING/PROMOTION/SPONSORSHIP FEES OR IN-KIND PAYMENTS

<b>Brief Description</b>	Revenue generated through payments or other tangible in-kind products or services (donation of software) by private or other non-governmental organizations in return for a promotional or advertising exposure to a GIS or IT user audience. May include posted logos, links, or pop-up ads on Web pages or sponsorship of events (conferences or training events).
<b>Constraints</b>	Company promotion through public agency computer networks may be limited by existing policies.
<b>Frequency/Importance</b>	Infrequent for IT or GIS organizations with the exception of material support for conferences. Used more frequently to support government-owned enterprises (e.g., municipally owned zoos, golf courses).



### SERVICE AGREEMENT TO SUPPORT MAJOR INFRASTRUCTURE DEVELOPMENT SERVICES

<b>Brief Description</b>	Contractual relationship with another public, private, or not-for-profit entity managing a major infrastructure development project that makes use of GIS data and services or some other type project that uses GIS resources. The contract would specify products and services and terms for providing them in return for payment.
<b>Constraints</b>	Requires contract and potentially complex negotiations. Legal restrictions or governmental policies may impose limits for entering into service agreements with non-public entities.
<b>Frequency/Importance</b>	Infrequent.



### ROYALTIES FOR VALUE-ADDED GIS PRODUCTS

<b>Brief Description</b>	Revenues based on a percentage of the sale of products or services by a Value Added Reseller (VAR) that is licensed to use GIS data from a public agency and that sells products generated from the data based on a mutual agreement.
<b>Constraints</b>	Requires a formal agreement between the public agency and VAR (usually a private company). May involve legal conflicts (unfair competition) if agreement is exclusive. Success of venture depends on strength of market for custom value-added products.
<b>Frequency/Importance</b>	Infrequent use and generally not an important revenue generator. Where market exists, does have the advantage of off-loading risk and product generation, marketing, and distribution costs to an outside party, but means reducing potential revenue to a small percentage of overall sales totals by the VAR.



### REASSIGNMENT OF UNUSED FUNDS (AKA “Diverted Reversion”)

<b>Brief Description</b>	Funds in agency budgets that would normally revert and be unavailable at the end of a fiscal year are diverted in whole or in part to IT or GIS investments. Would involve establishing a reserve fund in which to place the surplus amounts. Most applicable to support clearly defined technology development projects rather than routine operational expenses.
<b>Constraints</b>	Public agency budget policies may prohibit fund carryover or transfer at the end of a FY. Requires formal policy and new accounting procedures for fund transfer.
<b>Frequency/Importance</b>	Infrequently.



### SALE OF INTELLECTUAL ASSETS

<b>Brief Description</b>	Sale of “intellectual property” developed by an IT or GIS organization to other external organizations (public or private). This could include a packaged software product or system application, training materials, or other product that has value to other organizations.
<b>Constraints</b>	Requires the organization to take on an entrepreneurial style and approach that is more commercial than government institutions’ general experience and skills.
<b>Frequency/Importance</b>	Not extremely frequent for GIS projects but has been a major source of funding in IT organizations that may have commercialized software through third parties.




















### GAIN SHARING (AKA “benefits funding”)












<b>Brief Description</b>	Portion of increased revenues (or, in some cases, documented cost savings) resulting from services or a new application provided by the GIS or IT organization is transferred to the GIS or IT organization. Work would be performed with the intent of recovering money or increasing revenue connected with a particular service or capability. Based on reasonable certainty that additional revenue can be recovered or generated from GIS or IT services.
<b>Constraints</b>	May be limited by agency budgeting and financial management policies. Requires formal agreement and possible upfront funding to carry out work (public or potentially non-public) program (utility billing, fines, fraud detection, and documented cost savings).
<b>Frequency/Importance</b>	Infrequent. Could be a significant annual revenue source. Sometimes achieved through third parties on an outsource basis.



**Summary of GIS Funding and Resourcing Strategies (1 of 2)**

Allocation from Non-general Fund Budgets or Special Funds		
Joint Funding/Project Partnerships with Outside Organizations		
Grants		
Bonds		
Sale of GIS Products and Services		
Data Licensing or Subscriptions		
Special Transaction Fees		
More Effective Use of Existing Staff		
User Fees		
Use of Non-Traditional Staffing Options		

**Summary of GIS Funding and Resourcing Strategies (2 of 2)**

Standard Public Project Fee or Assessment		
Computing Infrastructure Sharing or Consolidation		
Vendor Donations and Special Programs		
Advertising/Promotion/Sponsorship FEES or In-Kind Payments		
Service Agreement to Support Major Infrastructure Development Services		
Royalties for Value-Added GIS Products		
Reassignment of Unused Funds		
Sale of Intellectual Assets		
Gain Sharing	