

FINANCING AND RESOURCING STRATEGIES FOR GIS PROGRAMS

Idaho 2010 GIS Forum

Peter Croswell, Croswell-Schulte IT Consultants

Frankfort, KY

502-848-8827

pcroswell@croswell-schulte.com



Question

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



It's all about the **Money**.....



Or is it?

Different Forms of Money

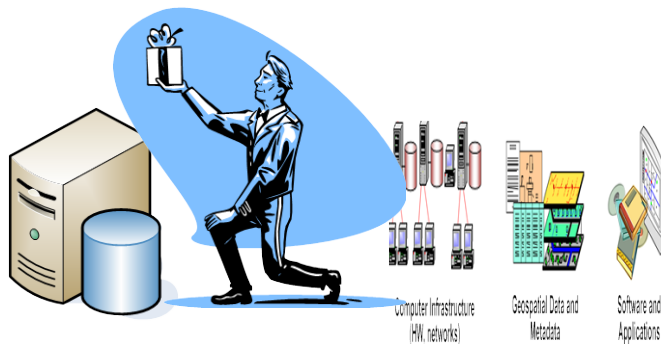
Cash



Staff Time



Donated or In-kind Products/Services



Efficiency Improvements (reduce costs and do more with existing resources)



Blah blah blah blah blah, **GIS**, blah blah
blah blah blah **70,000 dollars**, blah blah blah blah , **software
licenses**, blah blah **Web**, blah blah blah **150,000 dollars**, blah blah
blah blah, **maintenance fees**, blah blah blah blah blah blah



How purchasing interprets the complex language of the technician.

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.....)

GIS Costs-Development and Operation

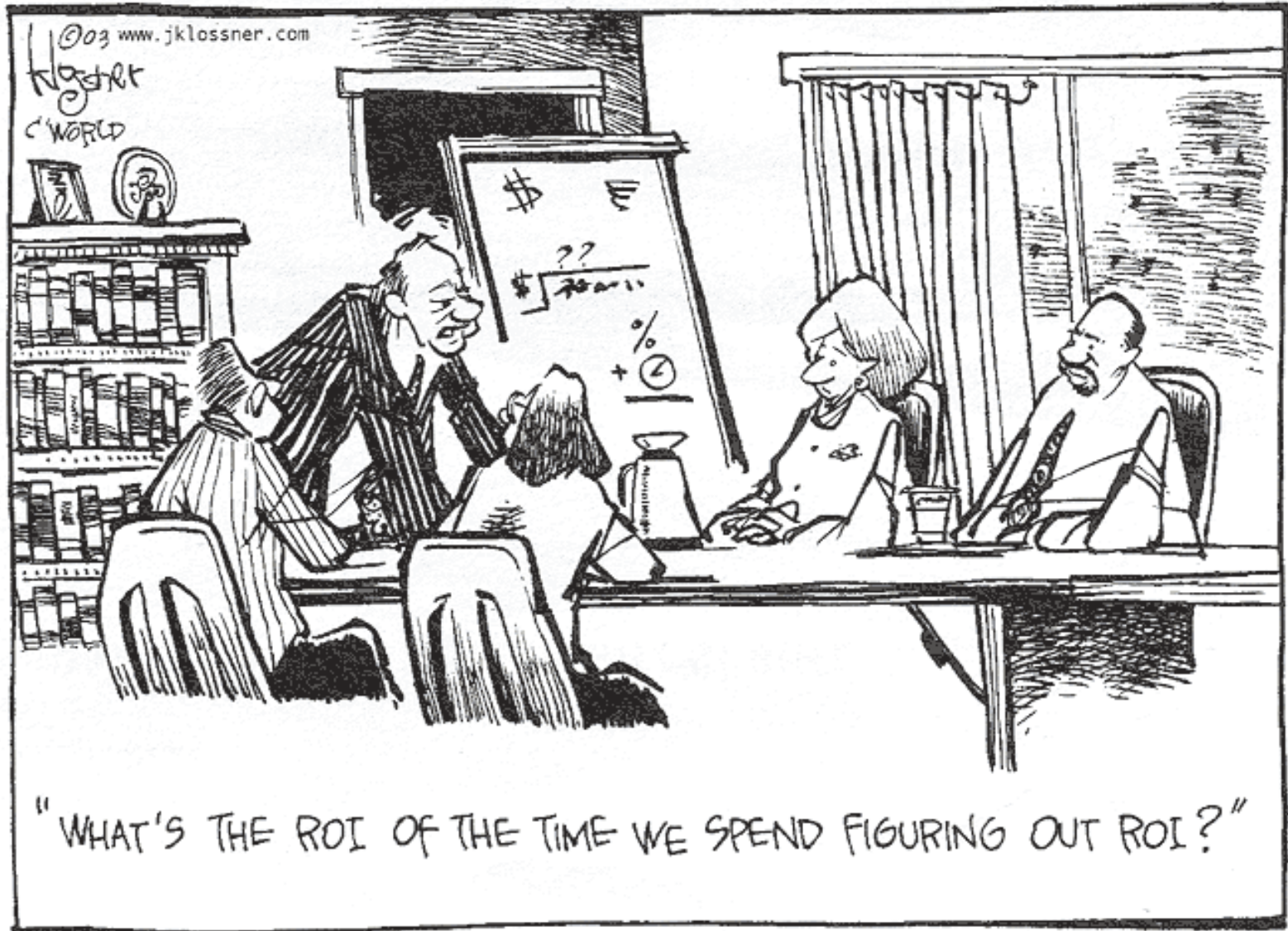
- **Consultant Support for Design and Planning, and Start-up**
- **Computer HW and Network Development**
- **GIS Software**
- **Application Customizing**
- **Map Compilation and Database Development**
- **Data Licensing**
- **Internal Staff**
- **HW/SW Support and Maintenance**
- **Promotion, Outreach, Education, Training**

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**

Funding and Sustained Financial Support: Operations Based Best Practices

- **Define and present Business Case for GIS financing on a periodic basis**
- **Establish and maintain efficient means of capturing and tracking resources/expenditures for GIS services and user transactions**
- **Establish performance measures and resource allocations; track utilization**
- **Maintain and active and representative governance body with authority for policy setting and financial oversight**
- **Maintain close working relationship with organization's IT Dept and Purchasing Dept.**



Examples of Benefits

Quantifiable Benefits (ROI or other measurable benefits):

- Staff productivity and labor cost savings
- Public revenue increase (e.g., improved collection of taxes, fees, fines, insurance claims)
- Reduction in duplication and redundancy
- Asset management (e.g., land and real property management)
- Support for economic and business development initiatives
- Avoidance of new costs (e.g., for responding to new regulations)
- Savings in capital project design
- Savings in infrastructure design and maintenance
- More effective management/allocation of field services
- Leverage/reduce costs through joint funding

Examples of Benefits

Hard-to-Quantify (Intangible) Benefits:

- Improved decision-making (land/infrastructure) development planning
- Improved timeliness and quality of data and services
- Protection/enhancement of natural resources
- Legal compliance/protection against expensive legal claims
- Savings of life/property (support for emergency management/response)
- Protection from catastrophic loss of records
- Catalyst for partnerships and information sharing



Different Forms of Money

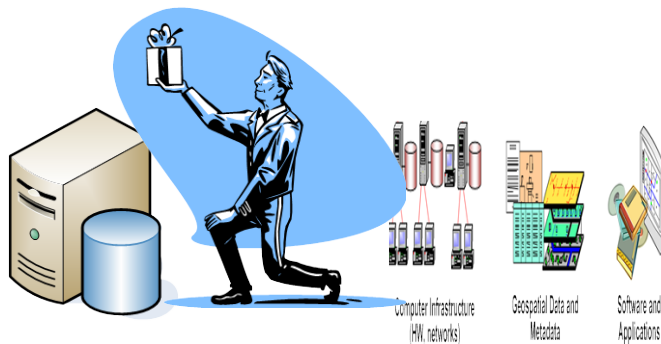
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Efficiency Improvements (reduce costs and do more with existing resources)



ALLOCATION FROM NON-GENERAL FUND BUDGETS OR SPECIAL FUNDS

Brief Description	Designation of portions of non-general fund budgets to support GIS development and/or operations.
Constraints	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).
Frequency/ Importance	Very frequently used by government agencies and public utilities.



JOINT FUNDING/PROJECT PARTNERSHIPS WITH OUTSIDE ORGANIZATIONS

Brief Description	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.
Constraints	Considerable consensus-building and negotiation. Requires formal agreement among parties and designation of lead management agency. Requires administration of joint ownership and use.
Frequency/Importance	Used frequently for GIS database development (at least 20% of public agency programs) and for wide area network development.



GRANTS

Brief Description	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.
Constraints	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.
Frequency/ Importance	Often used by government agencies—roughly 30% of GIS programs have used grant funding. In many cases the amount of grants are small.



BONDS

Brief Description	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.
Constraints	Requires legislative and sometime public approval and a secure pay-back mechanism. Significant administrative overhead in managing bond sales.
Frequency/ Importance	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

Brief Description	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.
Constraints	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
Frequency/ Importance	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

Brief Description	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).
Constraints	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.
Frequency/ Importance	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

Brief Description	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.
Constraints	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.
Frequency/ Importance	Often used—by roughly 10% of public agency GIS programs. Amount of revenue varies widely among different jurisdictions.



MORE EFFECTIVE USE OF EXISTING STAFF

Brief Description

Reduce staff downtime and increase productivity through:

- improved planning, management, supervision of GIS personnel
- providing better tools (software, hardware)
- improvements in work environment
- continued training and education
- enhancing morale and employee satisfaction

Constraints

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.

Frequency/ Importance

Very important but not used nearly enough.



USER FEES

Brief Description	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.
Constraints	Requires formal policy and user department acceptance.
Frequency/ Importance	Used in many cases by government agencies for general IT services and support (chargeback arrangements) but used only infrequently for GIS programs.



USE OF NON-TRADITIONAL STAFFING OPTIONS

Brief Description

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.

Constraints

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).

Frequency/ Importance

Very important and used at a moderate level but In general, GIS managers do not fully explore opportunities



STANDARD PUBLIC PROJECT FEE OR ASSESSMENT

Brief Description	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.
Constraints	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.
Frequency/ Importance	Infrequent. Could be a significant annual revenue source.



COMPUTING INFRASTRUCTURE SHARING OR CONSOLIDATION

Brief Description	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.
Constraints	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.
Frequency/ Importance	Growing, aided, and abetted by technology enhancements, e.g., Web-based service-oriented architectures, cloud computing.



VENDOR DONATIONS AND SPECIAL PROGRAMS

Brief Description	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).
Constraints	Subject to existing discount program eligibility or willingness of vendors.
Frequency/ Importance	Used frequently by government organizations and educational institutions which are eligible for discount programs



ADVERTISING/PROMOTION/SPONSORSHIP FEES OR IN-KIND PAYMENTS

Brief Description	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).
Constraints	Company promotion through public agency computer networks may be limited by existing policies.
Frequency/Importance	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

Brief Description	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.
Constraints	Requires contract and potentially complex negotiations. Legal restrictions or governmental policies may impose limits for entering into service agreements with non-public entities.
Frequency/Importance	Infrequent.



ROYALTIES FOR VALUE-ADDED GIS PRODUCTS

Brief Description	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.
Constraints	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.
Frequency/Importance	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”)

Brief Description	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.
Constraints	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.
Frequency/ Importance	Infrequently.



SALE OF INTELLECTUAL ASSETS

Brief Description	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.
Constraints	Requires the organization to take on an entrepreneurial style and approach that is more commercial than government institutions’ general experience and skills.
Frequency/ Importance	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”)

Brief Description

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.

Constraints


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).

Frequency/ Importance














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		

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