

**EXCERPT FROM**  
**REQUEST FOR PROPOSALS**  
  
**FAIR SHARE FINANCIAL MODEL**  
**AND**  
**ORGANIZATIONAL STRUCTURE PROJECT**  
**JUNE 1998**

**ATTACHMENT 2:**  
**SCOPE OF WORK**

**Purpose**

The purpose of this project is to define a strategy to ensure the long-term viability of MetroGIS and resolve some of the most problematical institutional issues faced by multi-jurisdictional regional collaborations to fulfill the data integration role envisioned by the NSDI framework. While this project starts with a fundamental belief in framework goals, it also questions one of its core premises — namely that the added costs associated with collaboration offer enough value to the collaborating organizations that they will provide long-term financial support for the effort. We hold no predispositions regarding the answer to this question, but a practical answer is needed. If a clear and practical commitment to collaborative financing can be demonstrated for MetroGIS, we believe it can serve as a model for others.

This project is supported by a National Spatial Data Infrastructure (NSDI) Framework Demonstration Grant. The project tasks described in the Scope of Work are substantially in the form presented in the awarded grant application. Excerpts from the application are provided in Attachment 7. They are included to provide the reader with a sense of the strong parallels between the MetroGIS and NSDI initiatives. Additional background information about MetroGIS is provided in the Scope of Work and at [www.metrogis.org](http://www.metrogis.org).

The Council has provided financing and principal support for MetroGIS to date. The Council is the regional planning organization in the seven-county metropolitan area. The Council runs the regional bus system, collects and treats wastewater and manages water resources preservation, oversees development, plans regional parks and administers funds that provide housing opportunities for low- and moderate-income families.

**Deliverable**

A report from the contractor that:

1. Builds upon and refines the NSDI Framework functions to clarify appropriate roles for data producers and integrators while addressing priority information needs of key MetroGIS stakeholders applicable to NSDI Framework . (Refer to page 2 of

- Attachment 8 for an overview of the priority MetroGIS Business Information Needs.)
2. Provides estimated costs for sustaining data sharing mechanisms consistent with the MetroGIS vision and with the roles and responsibilities needed to support the NSDI framework.
  3. Includes “balance sheets” to help clarify the net value of collaboration to potential participants, focusing on framework functions as well as costs and benefits.
  4. Provides guidelines for equitably allocating the costs of MetroGIS among its stakeholders.
  5. Describes a strategy to address financial and organizational issues that must be resolved for MetroGIS and the NSDI framework model to succeed.

## **Background**

MetroGIS, an unprecedented multi-participant project, serving the seven-county Minneapolis-St. Paul Metropolitan Area. A fundamental premise of MetroGIS is that local units of government serving this metropolitan area can most effectively carry out their responsibilities by sharing data and developing collaborative solutions to GIS implementation. Approximately 420 cities, townships, school districts, watershed districts and watershed management organizations, soil and water conservation districts, and counties comprise the Minneapolis-St. Paul Metropolitan Area.

MetroGIS is guided by a seemingly simple vision statement, forged through an intensive consensus-building process and endorsed by each local government organization critical to the success of MetroGIS. The vision is as follows:

*“Provide an ongoing, stakeholder-governed, metro-wide mechanism through which participants easily and equitably share geographically referenced graphic and associated attribute data that are accurate, current, secure, of common benefit, and readily useable.”*

Accomplishments: Significant progress has been made towards fulfilling the MetroGIS vision since its inception in 1996, thanks to substantial financial and resource commitments made by the Metropolitan Council and several hundred people representing dozens of cooperating organizations. A summary of the objectives and status of three MetroGIS strategic projects are provided in Attachment 8.

Nonetheless, significant work remains to nurture MetroGIS as its stakeholders strive towards consensus about strategies to sustain the effort. This consensus must be reached while the window of opportunity, made possible by the significant initial investment, remains open. The work of this project is essential to reaching that goal and comprises much of the work needed to complete the fourth strategic project – Sustainable MetroGIS Organization and Financing Project. Initial work has begun to define the functions and activities that stakeholders believe MetroGIS should assume. The Policy Board will consider a draft recommendation similar that presented in Attachment 12 at its September 1998 Board meeting. This action will provide a context within which to define an organizational structure and fair-share financial model appropriate to accomplishing the objectives of MetroGIS over the long term.

Contribution to NSDI Framework: Few sustained attempts exist to compare and contrast elements of the proposed NSDI framework with local and regional needs, certainly not on the scale of MetroGIS. This project, in seeking to empirically derive some of the practical conditions for cooperation, tests some of the normative assumptions of the NSDI. The elected officials that comprise the MetroGIS Policy Board provide the ultimate reality check!

For MetroGIS to successfully achieve its objectives, consensus must be reached on how to equitably share its costs. This inherently involves identifying the costs of collaborative data integration and balancing the needs and perspectives of data producers and data users. We believe that a fundamental NSDI assumption — that locally produced data can be integrated for local, regional, state and national applications, without restricted access and at virtually no expense — is at risk until this equity issue is resolved.

By leveraging the efforts of the broadly representative interests of MetroGIS stakeholders to address common information needs, identify costs of sharing data, define equitable cost allocation strategies that account for potential revenue losses, and devise effective institutional relationships to sustain MetroGIS, this project provides an important opportunity to test another fundamental NSDI premise — that local data producers can function as effective partners in a national effort.

The work proposed by this project also reflects the premise that collaborations such as the NSDI framework must depend not simply on good will but on good sense — the investments required to integrate and manage aggregated data are real and cannot be justified on good will alone. Work undertaken for MetroGIS has focused attention on the region's shared information needs. We now know that several resemble those required for the framework, but it is also clear that the interests diverge. This project seeks to put a dollar figure on bridging the gap and to provide the MetroGIS Policy Board with a plan of action, including possible legislation, to secure equitable long term financing.

6. Coordination with NSDI Benefits Grant: MetroGIS is also the subject of a 1998-1999 NSDI Benefits Grant, entitled "Evaluating the Effectiveness of MetroGIS". The project manager is William J. Craig, Ph.D., Assistant Director, University of Minnesota Center of Urban and Regional Affairs. Dr. Craig is actively involved and among the leadership of MetroGIS. The objectives of his project are: 1) document the amount of data sharing among MetroGIS stakeholders, 2) document the benefits accruing from this sharing, and 3) itemize the constraints on effective sharing and making recommendations for removing those constraints. Dr. Craig will be a member of project steering team for the Framework Demonstration Grant project. The substance of Dr. Craig's project, like that of the Framework Demonstration Grant Project, is a top priority of the 1998-1999 MetroGIS work program.

## **Coordination**

The successful proposer(s) will work under the general guidance of the Project Steering Committee. The Committee will be comprised of the Project Manager, other project staff, and participants of MetroGIS as determined by MetroGIS. The successful proposer(s) will be responsible for coordinating and communicating with all appropriate parties and MetroGIS groups and for timely delivery of all deliverables referenced for each of the tasks outlined herein.

MetroGIS committees and workgroups will provide appropriate input throughout the duration of the project at the discretion of the Project Steering Committee.

## Project Tasks.

This project, as currently conceived, entails four tasks to be conducted over a period beginning on October 1, 1998. Work must be completed by the contractor/proposer to provide adequate time for the Metropolitan Council to comply with the scheduling requirements for the NSDI Grant. Since the project relates to ongoing MetroGIS and NSDI Benefits Grant work, the final work plan may vary somewhat from the schedule provided in Attachment 9:

- Task A: Clarify Appropriate Roles and Framework Functions
- Task B: Estimate Costs of Collaboration
- Task C: Devise Fair-Share Financing Model and Organizational Structure
- Task D: Document Project Results

### Task A: Clarify Appropriate Roles and Framework Functions

This task will address NSDI Framework functions (see Table 1) as they pertain to MetroGIS, focusing especially on appropriate roles for MetroGIS participants. Some of these functions already have been assigned by MetroGIS, particularly those involving executive guidance and coordination.

1. NSDI Framework Functions. In *Framework: Introduction and Guide*, the FGDC identifies seven functions as essential to achieving NSDI framework goals:

- Executive Guidance
- Coordination
- Data Access
- Data Development, Maintenance & Integration
- Data Management
- Monitoring and Response
- Resource Management

These Framework functions have neither been systematically considered for the entire MetroGIS effort nor specifically considered for each of the framework elements. All of the cells in the following table would eventually need attention to fully comply with the framework model. However, the contractor will be responsible for work associated only on those cells identified with check marks:

**Table 1**

	Framework Themes						
<u>Framework Function</u>	Geodetic	Cadastral	Gov. Units	Transportation	Elevation	Hydrography	Orthophoto
Executive Guidance	✓	✓	✓	✓	✓	✓	✓
Coordination		✓	✓	✓			

Data Access		✓	✓	✓			
Dvpt, Maint & Int		✓	✓	✓			
Management		✓	✓	✓			
Monitoring & Response		✓	✓	✓			
Resource Management		✓	✓	✓			

2. Clarify Appropriate Roles and Responsibilities. MetroGIS has devised a prototype process to reach consensus about data specifications, candidate data custodians, and custodian responsibilities for its priority information needs. (See Attachment 10) However, not all of the framework functions have been addressed.

The successful proposer(s), in collaboration with the MetroGIS Information Needs Workgroups and staff, will apply and refine the prototype process to comprehensively address each Framework function for the three highest priority MetroGIS information needs — Jurisdictional Boundaries, Parcels, and Address Locations. These priority needs correspond to the NSDI Governmental Units, Cadastral Features, and Transportation Framework data these. (See Attachment 7)

The successful proposer(s), in collaboration with the MetroGIS Information Needs Workgroups and staff, will identify and document the organizations and their roles and responsibilities most appropriate to effectively produce, integrate, maintain, document, and share data needed to address priority MetroGIS Information Needs. A matrix similar to that presented in Attachment 11 shall be prepared for each dataset necessary to address each of MetroGIS’s top three information needs. Some progress has been made to identify suitable custodians for the jurisdictional boundary and address information needs.

The successful proposer(s) will undertake and document an analysis of how local needs diverge and converge from the NSDI Framework function guidelines for the top three MetroGIS information needs. That is, document any functions or activities necessary for data sharing that exceed the needs of custodian organization and those that are not currently supported by an organization. Matrices shall also be filled out, to the extent possible, for the remaining MetroGIS priority information needs, shown on page 2 of Attachment 48

This analysis shall include clarification of roles and responsibilities of stakeholder organizations concerning development and maintenance of metadata and posting it with the MetroGIS *Data Finder* and with the State’s Node of the NSDI Clearinghouse. Significant work has been accomplished under a separate contract to identify roles and responsibilities for the MetroGIS Data Finder project, referenced in Attachment 8. The successful proposer(s) will utilize and, in collaboration with MetroGIS officials, evaluate the findings of the documents completed under separate contract relative to the NSDI Clearinghouse design and operation and integrate the findings with the recommendations for this project.

**Task B: Estimate Costs of Collaboration**

Achieving the goals envisioned by MetroGIS, particularly if it is to fully comply with the framework model is not cost-free. For every role or responsibility assumed by an organization that requires work not otherwise associated with its existing operations, a burden is placed on

some tax-paying constituency. Collaboration, to be sustained over time, demands no unjustifiable costs. Our problem: little empirical documentation of those costs is available. It will be the responsibility of the successful proposer(s) to provide this needed documentation. The costs associated with maintaining the MetroGIS data sharing mechanism must be defined on the basis of the roles and responsibilities identified in Task A, guided by the MetroGIS Policy Board statement of functions and activities appropriate to MetroGIS, as described in Attachment 12.

1. Develop Cost Profiles. The successful proposer(s) shall build cost profiles for each of the MetroGIS's three highest priority information needs (Jurisdictional Boundaries, Parcels, and Address Location 1), accounting for all seven Framework functions, as documented in Task A. Each profile shall include, but not be limited to, a cost estimate for each of the following activities in support of regional needs, not the needs of individual participant organizations, per se:

- ***Data Development, Maintenance, Integration, and Management.*** Developing new data needed by MetroGIS, maintaining new and existing data, integrating data from local sources, developing procedures to support transactional updating of regional datasets from contributors, and developing and maintaining metadata. These include costs for developing operational data specifications and the costs of horizontal integration across boundaries and vertical integration among city, county and regional organizations.
- ***Data Distribution.*** The successful proposer(s) will identify any and all design modifications that would be necessary to bring the MetroGIS *Data Finder* into full compliance with NSDI's Clearinghouse specifications and document the cost-benefits of undertaking any such work. Roles and responsibilities have been identified metadata contributors to the MetroGIS data searching and distribution mechanism, Data Finder, and an estimate has been prepared of the costs of long term support of Data Finder, under a separate contract (see Attachment 8). No policy decisions have been made.

Estimate Costs for Other Information Needs. The successful proposer(s) will estimate the cost to address each of the ten remaining MetroGIS information needs identified on page 2 of Attachment 8, based upon the cost profiles developed for the three highest-priority MetroGIS needs noted in Task A. Though some of the remaining information needs have no direct framework equivalent, the case for a sustained local commitment to MetroGIS cannot be expected unless these needs are included in the analysis.

Other Costs of Coordination. In addition to data-related coordination costs, the successful proposer(s) shall estimate the cost of the following activities:

- ***Technical Services.*** Estimate the costs to provide technical assistance to MetroGIS participants to retrieve, translate and use data.
- ***Coordination, Research, and Outreach.*** Estimate these costs for a mature MetroGIS organization using actual costs that have been incurred and documented to support the MetroGIS Policy Board, its Coordinating Committee, and the Advisory Teams. Past activities also include negotiation and administration of contracts and agreements, communication and promotion costs (i.e., the MetroGIS web site and *Coordinates* newsletter, conferences, efforts to keep decision-makers informed about issues and

opportunities, and efforts to extend the program to other participants.) Anticipated future activities include: identifying training and education needs and encouraging participation, research to meet common regional needs, promoting of collaborative funding of projects to meet regional needs, promoting exchange of applications and procedures, providing a repository of GIS human resources, and marketing MetroGIS data and products.

### **Task C: Design Fair-Share Financing Model and Organizational Structure**

Despite the vision and leadership that has nurtured MetroGIS since its beginning, some participants retain a healthy skepticism about its value to their own organizations. This condition is especially true for data producers, who are being asked to freely provide data to organizations that had previously been data-purchasers. Achieving the goals of MetroGIS — and the NSDI for that matter — depends greatly on demonstrating net benefits for all participants. An equitable model for financing collaborative efforts is essential, especially for framework collaborations.

With financial support from the Metropolitan Council, Interim GIS Data and Cost Sharing agreements have been executed for the region's principal data producers — the counties. The agreements have established the initial conditions for data sharing, but they begin to expire in 2000. By building “collaboration balance sheets” for high-priority data elements, the goal is to identify the conditions required to build a defensible case for a long term, sustainable mechanism before the terms of the interim agreements begin to expire. Findings from the NSDI Benefits Grant project “Evaluating the Effectiveness of MetroGIS” described earlier are expected to be applicable to this project. The resulting collaboration balance sheets, in turn, will be used to design a “Fair Share” model for sustained financing of MetroGIS.

1. Establishing Base Costs. Establish “base costs” for each organization represented on the MetroGIS Policy Board, and for other organizations within the region important to the success of MetroGIS prior to developing options for allocating the estimated costs of collaboration. “Base cost” is defined as the cost that an organization incurs to obtain, import, and/or manipulate data to support its internal business needs, assuming no data sharing agreements or other collaboration exists. .
2. Develop Options. The Successful proposer(s) will develop, evaluate and document the pros and cons of options using the fair-share financing principles presented in Task C(2) for consideration by the MetroGIS Policy Board to equitably allocate the costs of collaboration estimated in Task B and to encourage long term participation of data producers. Options must include an evaluation of the following options and others as deemed appropriate by the Project Steering Committee:
  - ***Data Maintenance Supplement Fee.*** Data consuming organizations would regularly contribute to a pool of funds that would be available to compensate data producers and other organizations incurring special costs to address MetroGIS information needs. The willingness of data producers to make their data available has been demonstrated as a result of the Interim GIS Data and Cost Sharing Agreements between the seven counties and the Metropolitan Council. Each county receives a flat payment each year during the term of the agreement based upon its area and the number of parcels within the county.

- **Organization Category Subscription Fee.** Assign a fair-share cost of the annual MetroGIS cost to each type of major organization based upon factors to be determined. Major types include counties, cities, school districts, watershed districts, and metropolitan organizations. Organizations within each type would contribute an amount based on the number who participate — the more organizations that participate, the less expense to each.
- **Individual Organization Subscription Fee.** Assign a fair-share cost of the total annual data sharing mechanism cost to organization on the basis of factors to be determined.

The successful proposer(s) will document all assumptions, guidelines and the results of their investigations; fully describing advantages and disadvantages of the each financial model option from the perspective of the MetroGIS Policy Board; and the rationale for the selected option(s).

3. Fair-Share Financing Principles The following principles identified by members of the MetroGIS Policy Board, its Coordinating Committee, and county participants while negotiating interim data sharing agreements must be incorporated into the contractor/proposer evaluations:

- **Forms of Contributions.** Contributions may be in several forms, including funding, data, people and equipment.
- **Existing Business Functions.** Organizations will not be expected to maintain data for MetroGIS unless that organization has an internal business purpose to maintain the data.
- **Equivalent Effort.** No organization will be expected to contribute more to support a MetroGIS data need than it would have to pay to meet its internal needs outside of a collaborative environment.
- **Costs of Data Development.** Organizations will not be expected to incur costs to develop or maintain data for MetroGIS that exceed what it would cost to meet their own needs without being appropriately compensated.
- **Costs of Data Distribution.** Organizations will not be expected to contribute more to a MetroGIS data sharing solution than they would incur to obtain, import, and manipulate data for their own needs unless they are appropriately compensated.

**Data Sales.** Revenues received from sale of regional datasets assembled from MetroGIS member data or from data developed collaborative by MetroGIS stakeholders in excess of the cost of delivery may be considered as a source of funding to support MetroGIS.

4. Organizational Structure. The successful proposer(s) will describe alternative organization models for implementing the fair-share financing model and evaluate them. This work must reflect: a) functions and activities identified by MetroGIS as appropriate for MetroGIS to assume. See Attachment 12 for a draft recommendation in this regard and b) the contractor/proposer's work in accordance with the other Tasks stated in this Section to evaluate options and propose an organizational/legal structure appropriate to achieve the mission of MetroGIS.

The successful proposer(s) will document all assumptions, guidelines and the results of their investigations; fully describing advantages and disadvantages of the

organizational/legal structure option from the perspective of the MetroGIS Policy Board; and the rationale for the selected option(s).

#### **Task D: Document Project Results**

1. Presentation of Draft Final Report. The successful proposer(s) will produce a final report that fully documents the activities, findings, and results of the MetroGIS NSDI Framework Demonstration Project. An unbound original and twelve copies of a draft of this written report shall be submitted to the Project Manager for review and comment by the Project Steering Committee. Following steering committee comment, the successful proposer(s) will present a revised draft report for additional comment at a forum of MetroGIS stakeholders to be decided by the Project Steering Committee.

2. Submittal of Final Report. The successful proposer(s) will incorporate comments obtained from presentation of the draft final report into a final report that fully documents the activities of the MetroGIS NSDI Framework Demonstration Grant Project. Requirements and recommendations for areas that require further research shall be included in the final report. This report and all support documentation shall be the property of the Metropolitan Council, to release to others as it chooses or is required under its obligations of the NSDI Framework Demonstration Grant and other applicable laws.

A digital copy (Microsoft Word/Office97 ), two hard copies, and an original unbound hard copy of the final version of the written report, as revised to address comments received from Task D(1), shall be submitted to the Project Manager within two weeks of Project Manager's acceptance of a final draft report.