

Appendix B

CDC MetroGIS Workgroup: Questions and Answers

General Background

1. *What services and data does MetroGIS provide?*

MetroGIS services and data fall into three major categories:

- Fostering Collaboration: Staffing and organizing meetings, management of strategic and business planning
- Assembling/Distributing Data: Storing MetroGIS data and making it available through the “DataFinder” website
- Creating/Maintaining Data: Production of GIS data identified as a priority by MetroGIS

2. *What constitutes the basic GIS data needed by MetroGIS participants?*

MetroGIS has identified 13 primary information needs, 8 of which have been substantially developed, with 5 still being works in progress. Various datasets have been created to meet these needs. Each dataset has at least one “custodian” with principal responsibility to acquire and develop the dataset, in accordance with standards established by the MetroGIS Policy Board regarding accuracy, uniformity, and organizational roles and responsibilities. (Data meeting such standards are then “endorsed” by MetroGIS.)

Substantially Developed:

- Addressable Street Centerlines
- Census Geography
- Emergency Preparedness
- Land Cover
- Municipal/County Jurisdictional Boundaries
- Parcels/Unique ID
- Planned Land Use
- Socioeconomic Web Resources Page

Works in Progress:

- Address Points (All Occupiable Units)
- Existing Land Use
- Highways and Road Networks (E911 Compatible)
- Lakes, Wetlands, Rivers
- Schools and Watershed District Jurisdictional Boundaries

3. *Who gets the data products (list of customers - those who have licenses and are identified as users)?*

Most MetroGIS data is available without license, so specific information about users of these data are not available. However, some general information about these users is available through tracking software. 51 percent of the download activity via DataFinder was to interests located within the Greater Twin Cities Area. Among identifiable downloads, 63 percent were performed by academic institutions, 32 percent by government, and 5 percent by engineering firms.

There are two datasets which are available without fee only to government and academic interests who have secured a license. There are 169 licensees of the regional street centerline dataset and 67 licensees of the regional parcel dataset.

4. *Who enhances MetroGIS data?*

Only the designated data producer is authorized to enhance endorsed MetroGIS datasets. (For example, only counties can enhance parcel data.) However, an error identification procedure exists so that users can point out anomalies for investigation. All error correction is accomplished at the source, subject to agreed-upon procedures.

5. *Was there consideration of purchasing GIS data from outside sources?*

Yes. The custodian for each dataset determines the best source for the data, in collaboration with other MetroGIS partners. In most cases, custodians generate the data themselves. One dataset, Street Centerlines, is currently obtained from an outside vendor, the Lawrence Group.

6. *What makes MetroGIS work? (Reinhardt letter)*

The following reasons for MetroGIS's success were offered in the letter to the CDC Workgroup from Commissioner Reinhardt:

- Council leadership – brought major data producers and other stakeholders to the table
- Focus on common needs and regional benefits keeps stakeholder involved
- The collaborative approach has huge value – stakeholders are willing to put in time, effort, and data to make what they do for internal purposes useable for others.
- Technology changes (web-based mapping) make it even more efficient for local producers to work together and reduce costs
- Most local governments are having trouble earmarking local spending for regional benefits, even though they see value to the region.
- Support from the Council for administrative aspects of MetroGIS keeps things moving – notes, scheduling, coordination, information sharing and technical “home base” for data sharing systems.

In a recent book “*GIS Worlds: Creating Spatial Data Infrastructures*” Dr. Ian Masser, an internationally respected expert in field of spatial data infrastructures, cites MetroGIS as among the best geospatial collaboratives from an international perspective and the only collaborative in the U.S. that he believes capable of achieving the full vision and objectives of the National Spatial Data Infrastructure. On page 140 of his book, he states MetroGIS’s “success owes a great deal to its organizational structure, its active membership, and the financial support that it received from the Metropolitan Council”. He also cited three of MetroGIS’s decision making principles as important factors in successes achieved to date:

- Encourage consensus decision- making for matters fundamental to the long term success of MetroGIS.
- Seek powers and resources needed to develop and sustain MetroGIS through a voluntary, collaborative and cooperative process.
- Require a super majority (75% of Coordinating Committee members) for recommendation to the Board and a dissenting opinion if not unanimous.

Finally, he notes that the data custodian concept is also a key to operational success given MetroGIS has no legal standing and no technical staff.

7. *What does it mean for Metropolitan Council to be the “primary sponsor” of MetroGIS?*

The notion of Metropolitan Council as “primary sponsor” of MetroGIS is grounded in the leadership role that the Council accepted in 1996 (see Attachment 1)

Metropolitan Council provides all regional funding and staffing for two of the three categories of MetroGIS services/data: Fostering Collaboration, and Assembling/Distributing Data. In addition, Metropolitan Council provides substantial funding and staff support for several of the endorsed MetroGIS datasets. Especially notable are:

- Addressable Street Centerlines: Purchased by Metropolitan Council from the Lawrence Group for an annual cost of approximately \$48,000. Note, however, that counties are planning to replace this dataset with a more sophisticated version that meets their 911 requirements, and to contribute it to MetroGIS as it becomes available during the next three years.
- Parcels/Unique ID: Acquired by Metropolitan Council from the seven counties of the area for an annual cost to the Council of \$28,000 (\$4,000 for each county), per the terms of the Third Generation Agreement. Note, however, that the reimbursement received by counties is considerably less than what they received in the past for comparable data. Specifically, costs to the Council have been:

- First Generation Agreement (1997-2001): \$644,550 (\$128,910 per year)
- Second Generation Agreement (2002-2003): \$150,000 (\$75,000 per year)
- Third Generation Agreement (2005-2008): \$112,000 (\$28,000 per year)

8. *Is GIS data similar from one county to the next?*

One of the accomplishments of MetroGIS has been to ensure that its endorsed data is similar from one county to the next. Without agreed-upon standards, such as those developed by MetroGIS, considerable effort would be needed to make GIS data uniform from one county to the next. Prior to the advent of MetroGIS, two metro area counties in particular - Anoka and Carver - had major problems with the quality of their parcel data. Carver County's data was not even in a digital form. Both counties now have much-improved parcel data in a GIS format.

9. *How much does GIS data change - e.g., in Hennepin County as compared to a developing county? (Once a data layer has been developed, is it generally stable?)*

It is true that it takes more work (and costs more) to create initial GIS data layers than it does to maintain them. GIS data is an information infrastructure very similar to physical infrastructure in that regard. The history of MetroGIS reflects this reality. In 1996-1997, average actual MetroGIS expenditures per year were \$399,250; by 2003-2004, average actual MetroGIS expenditures per year had dropped to \$183,647.

However, as a growing major metropolitan area, there is considerable change in GIS data from one year to the next. Our region adds about 33,000 people per year, and is expected to continue growing at this rate for the next 30 years. All of these changes translate into changes in MetroGIS databases. Large changes are well distributed among six of the seven counties in the region which contain large areas classified as "Developing" by the Metropolitan Council; only Ramsey County is entirely "Fully Developed." Moreover, particularly in the parcel dataset, changes occur frequently throughout the region in data elements such as property values.

10. *Are there organizations similar to MetroGIS elsewhere in the country? How do they work?*

To staff's knowledge, there are no other organizations in the U.S. with similar objectives to those of MetroGIS or the complexity of stakeholders as MetroGIS. Those that do exist generally do not involve more than more than

two or three counties. Active involvement of water management and school districts is also rare.

As part of a 2001 national study sponsored by the National GeoData Alliance, in which the Staff Coordinator collaborated with Dr. Zorica Budic of the University of Illinois, a table was produced to compare and contrast the characteristics important to success with several other geospatial collaboratives. MetroGIS possessed 16 of the 17 characteristics. This table can be viewed on page 67 of the document at http://www.metrogis.org/documents/articles/lessons_entire.pdf.

11. *What similar services and data are available on the Internet or elsewhere that don't require MetroGIS?*

The Internet is opening up many powerful new opportunities to obtain GIS data and to use various GIS “applications.” (A familiar example of a GIS application is Mapquest, where a person can type in an address anywhere in the U.S. and generate a map identifying the location – or even directions on how to get from one location to another.)

By itself, however, the Internet cannot guarantee the accuracy or appropriateness of the data that it makes available. An important function of MetroGIS is to establish standards of accuracy and uniformity, and verify that such standards have been achieved throughout the seven-county region for all data that are “endorsed” by MetroGIS. If anything, the need for such an endorsement process may increase as Internet access to data becomes easier. Users will need to verify the reliability of the data they are acquiring, and MetroGIS can provide that service within our metropolitan area.

Note that, in order to explore more deeply the future implications of the Internet and related technologies, MetroGIS is planning a one-day conference and workshop for June 1, entitled “Imagining Possibilities: The Next Frontier for Geographic Information Technology.” Nationally and internationally prominent speakers have been invited, including representatives of the Institute for the Future (a Silicon Valley strategic research institute) and ESRI (the world’s largest GIS software company).

Funding

12. *Has MetroGIS ever assessed the value of its data/services to participants? (e.g., as a basis for subscriptions) What were the results of the “user/taker” study?*

MetroGIS has explored the possibility of assigning a dollar value to its data/services, but thus far has not come to any formal conclusions regarding this issue.

Several other methods have been used over the years to assess the value of MetroGIS data/services. A 1999 study by Dr. Will Craig of the University of Minnesota surveyed both recipients of shared data and participants in MetroGIS activities. It concluded that two MetroGIS functions were strongly supported by interviewees: promote voluntary policies to foster coordination, and facilitate data sharing agreements and licensing.

MetroGIS also has sought and received testimonials from several organizations who have affirmed the value of MetroGIS to their work: the City of Roseville; the Metropolitan 911 Board; SRF Consulting Group, Inc.; the Metropolitan Airports Commission; the Riley-Purgatory-Bluff Creek Watershed District; the Metropolitan Council; the Metropolitan Mosquito Control District; and TIES (a consortium of metropolitan area school districts).

Finally, in 2002 a Japanese delegation visited and studied MetroGIS for several days. Based on their study, they developed a “give-take” diagram which MetroGIS staff subsequently updated (see Attachment 2). This diagram outlines the relationships of various kinds of organizations with MetroGIS.

13. *What is the total cost of MetroGIS, and what has been Metropolitan Council’s contribution to that cost? If there were no MetroGIS, how much would it cost to acquire needed data?*

In terms of actual expenditures, from 1995 through 2005, the Council has invested \$2.74 million in support of MetroGIS’s foster collaboration function (an average of approximately \$250,000 annually). The Council has also invested \$91,900 over the 11-year period in support of the MetroGIS DataFinder website, and a total of \$1.03 million in support of regional data solutions to common information needs, an average of approximately \$94,000 per year. Refer to the accompanying table (Attachment 3) for a year by year summary of the Council’s investment in MetroGIS’s “fostering collaboration” function.

The Council’s GIS Manager conducted an investigation early in 2004 that documented the Council’s cost to support acquire and develop data (including support for MetroGIS) constitutes 55 percent of the Council’s total GIS budget. In contrast, other similar organizations devote 75 percent of their total GIS budget to data acquisition and development.

Another way to estimate the cost that the Council could face to acquire data it would need if MetroGIS did not exist is presented in the table entitled “Cost of Data Acquisition and Development With and Without MetroGIS” (Attachment 4). In this table, each of the eight current regional endorsed

datasets is listed with an estimated cost to acquire the dataset in a non-collaborative environment. Note, however, that this excludes several regional datasets which are in development and for which the affect of ceasing MetroGIS's collaborative processes cannot yet be determined.

14. *Given that the Council plays the role of “sponsor” and “leader” regarding funding, what other funders are there?*

The federal government has provided funding for MetroGIS several times through its National Spatial Data Infrastructure (NSDI) program:

- 1996-1997: funding for staff involvement in five NSDI workshops
- 1998-1999: \$100,000 for Fair Share Financial Model and Organizational Structure Study
- 1999: \$48,000 for Will Craig Benefits Study
- 2001: \$18,700 for upgrading DataFinder (carried over and used for software acquired in 2006)

MnDOT provided \$200,000 in funding for the TLG street centerline map in 1997, plus approximately \$18,000 annually for five years to share maintenance expenses with the Council.

15. *What is the meaning of “fair share” contribution to MetroGIS?*

The understanding of “fair share” has evolved through the history of MetroGIS. As indicated in the 1999 “Fair Share Financial Model Consultant Team’s Report,” an early MetroGIS goal had been to determine the costs of MetroGIS and also to develop a formula for allocating the costs as user fees to various subscribers.

The idea of “fair share” in MetroGIS today is guided by the principle that equity is achieved if it costs each organization no more to engage in a activity that meets MetroGIS needs than it would to meet its own internal needs:

- Because of the nature of Metropolitan Council needs, it is fair for the Council to pay for two of the three major MetroGIS functions: fostering collaboration and centralized data discovery and distribution.
- Data development, assembly and maintenance functions (“custodian” roles) are shared by ten stakeholder organizations, including the Council.
- Contributions can include data, equipment/applications, people and funding that are relevant to addressing common regional GIS needs.

16. *Why was the subscription fee proposal not implemented?*

Staff who were involved in subscription fee discussions report that MetroGIS leadership found two major problems with the subscription fee proposed in the 1999 consultant’s report: (1) It was believed to be significantly incorrect in

its estimate of future MetroGIS costs; and (2) The suggested expense allocation formula, which formed the foundation for the subscription fees, was found to be flawed when shared with affected organizations.

A modified cost-sharing model, applying only to operational costs (i.e., not data development and maintenance) was proposed as part of the 2000-2002 MetroGIS Business Plan. According to this proposal, Metropolitan Council would pay \$220,000 out of a 2002 budget of \$405,000, with the additional \$185,000 provided by contributions or fees from seven other subscriber classes. The Metropolitan Council contribution would have constituted approximately 54 percent of the budget for operational costs. Specifically, the following was proposed:

* Metropolitan Council	\$220,000
* Other Metropolitan Agencies	\$ 30,000
* Federal Agencies	\$ 30,000
* State Agencies	\$ 30,000
* Universities and Colleges	\$ 30,000
* School Districts	\$ 30,000
* Municipalities (Cities)	\$ 25,000
* Watershed Districts	\$ 10,000

However, this proposal was not implemented because, in the words of the 2000-2002 Business Plan, “[agencies other than Metropolitan Council] are interested in cooperating on a project-by-project basis for data development, commonly needed applications, and special studies, but most do not have budgeted funds that could be diverted to cost share administrative/ coordination costs. Most kept the door open for modifying current policy once they have an opportunity to evaluate the usefulness of each regional dataset available through MetroGIS and the interoperability to MetroGIS’ regional datasets.” (Section 7.1)

Consequently, Metropolitan Council agreed to continue paying for MetroGIS operating costs temporarily, although there was no clear definition of how to determine when the temporary situation would end. The 2000-2002 Business Plan states as an assumption that: “Further consideration of the concept of subscription fees will be postponed until such time that the regional datasets required to address each of the priority information needs has been available for use and evaluation by the MetroGIS community for not less than six months.” (Section 7.1)

17. *Why has there been resistance to selling MetroGIS data to “for-profit” entities?*

In principle, there has not been resistance on the part of the MetroGIS Policy Board to selling MetroGIS data to “for profit” entities. Both the 2000-2002

and the 2003-2005 Business Plan indicate the desirability of charging “access fees” that would apply to private sector use of MetroGIS data.

However, several factors would complicate any efforts to sell MetroGIS data to “for-profit” entities. First, because MetroGIS does not currently exist as a formal legal organization, it does not and cannot own data. Therefore, any fees would need to be structured in a way that takes into account either license agreement restrictions (in the case of proprietary data) or public data laws (in the case of public data).

Second, there could be significant costs involved in setting up a system to charge for-profit entities for data. As part of the 2000-2002 Business Plan, a MetroGIS task force studied the possibility of expanding the DataFinder website to include an e-Commerce capability. At that time it was discovered that a commerce license would be required for the main software that supports DataFinder; this license would have cost four times the current license cost, and it was deemed that such e-Commerce costs would be substantially higher than the expected revenue stream. However, future developments in e-commerce could result in a change in this situation.

Finally, as suggested in Item 3 above, two of the most popular MetroGIS datasets are, in effect, already “sold” to for-profit entities: street centerlines, and parcels. In each case, only public and academic interests are allowed to license this data without charge; others must arrange with the owners of the data (the Lawrence Group and counties) for data access.

18. ***Regarding comments about products for various customers, how do these products help or support the Council?***

All of the core MetroGIS datasets meet common information needs, including those of the Council. The Council’s 2005 MetroGIS Program Evaluation and Audit Report included a survey of Council staff users of MetroGIS data and found that 9 of the 13 information needs were identified as “important” or “essential” by more than 50 percent of users.

Like other MetroGIS participants, the Council will evaluate its involvement in the development and maintenance of MetroGIS products (data, applications) on a case-by-case basis using two basic evaluation criteria: (1) Does the Council need the product in question, and (2) Does it cost the Council no more to obtain the product via MetroGIS than it would through some other means.

Governance

19. ***Who determined the formation of the Policy Board and Coordinating Committee?***

The origins of the MetroGIS governance structure date to a December 14, 1995 strategic planning retreat involving 18 metro area GIS stakeholders, including most government interests that serve the seven county area, academia, utilities, multi-jurisdictional interests and for-profits in the GIS community. Under the general direction of the Associate Regional Administrator, the MetroGIS Staff Coordinator teamed up with the Council's Learning and Organizational Development staff and Professor John Bryson of the University of Minnesota to facilitate a strategic planning forum to investigate the notion a regional GIS. The Retreat Planning Team defined the strategic stakeholder interests, identified appropriate representatives of each interest, and secured participation. (For more information about the retreat, participants, facilitation methods used, and strategic issues identified, including those related to governance, see http://www.metrogis.org/about/history/strategic_retreat.shtml and http://www.metrogis.org/about/history/chronicle_phase1.pdf).

This retreat identified “explore governance options” as one of 15 strategic issues to be addressed to launch a Regional GIS effort. The retreat participants agreed to continue to meet and function as a “visioning/ coordinating team” that subsequently adopted the name of the “MetroGIS Coordinating Committee.” A subgroup of the Coordinating Committee formed to develop recommendations regarding policy and governance issues.

On February 8, 1996, the MetroGIS Coordinating Committee unanimously approved an organizational structure which included a Policy Board. The recommended structure was subsequently approved unanimously by Metropolitan Council on June 13, 1996.

20. ***Who determines membership in the Policy Board and Coordinating Committee?***

Policy Board: The Policy Board determines the organizational interests to be represented on the Board itself and on the Coordinating Committee. The stakeholder interests, themselves, determine the individual whom they want to serve in this various capacities, subject to minimum desired qualifications set forth in the Operating Guidelines. This has been the procedure since inception of MetroGIS. The eleven interests represented on the Policy Board have not changed since inception:

- *Association of Metropolitan Municipalities (AMM)*
- *Counties of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington*
- *Metro Chapter of the Minnesota Association of Watershed Districts (MAWD)*
- *Metropolitan Council*

- *Technology Information Education Services (TIES)*

Membership on the Coordinating Committee has expanded since 1996 to include additional regional (MAC, Mosquito Control, and MESB in addition to the Council), more state (DNR and MnDOT in addition to LMIC) and non-profit interests.

Coordinating Committee: The organizational structure approved in 1996 stipulated:

The Policy Board shall approve the interest categories to be represented by the members of the Coordinating Committee. The approved interest categories shall include, but not necessarily be limited to, essential participant stakeholders [Editor's note: *Council and seven counties*], government that serves the metro area, academic institutions, non-profit organizations that serve as adjunct resources for local government, non-government providers of essential public services, private sector GIS consultants and 'business geographics' interests, and other interests important to the long term success of MetroGIS.

The Coordinating Committee shall be responsible for selecting organizations or individuals to represent each of the approved general interest categories. To qualify for consideration, candidate organizations, classes of organizations, and individuals must: 1) be an essential participant stakeholder or a system enhancer stakeholder or 2) possess special expertise or knowledge important to the MetroGIS mission not provided by another member." [The guidelines further stipulate six requirements for Committee member selection, the specifics of which can be found in Article III of the document at http://www.metrogis.org/about/history/ops_guidelines.pdf.]

Current MetroGIS Operating Guidelines, adopted in July 2004, retain the structure established in 1996 with some minor modifications to clarify responsibilities, remove reference to advisory teams that had dissolved, and acknowledge evolutions that had occurred in the operations since the inception.

21. *What happens if consensus breaks down within the Coordinating Committee or Policy Board?*

Regarding the Policy Board, Article II, Section 5 of the Operating Guidelines note that "a consensus process involving all Policy Board members is encouraged" but further stipulates that "a motion supported by fifty percent of the duly appointed members or their designated alternates, plus one member, shall be the act of the Policy Board, unless a greater number is required by law or by another provision of these guideline. Notwithstanding, a consensus process involving all Policy Board members is encouraged for matters

fundamental to the long term success of MetroGIS.” There has not been an instance where a policy decision has been approved with less than unanimous support.

For the Coordinating Committee, the Operating Guidelines do not make reference to the desirability of consensus. Instead, Article III, Section 9 stipulates that a motion for a recommendation to the Policy Board must be supported by at least 75 percent of the members present, and, unless it is unanimous, must include any differing opinions with the recommendation. Other motions require approval by at least 50 percent of members present, plus one.

22. ***Where did the idea of MetroGIS as an independent entity come from?***

To quote a statement from page 14 of the Fair Share Model Study Report, “An assumption was made early on in the evolution of MetroGIS philosophy that MetroGIS must be perceived as, if not in fact, a separate entity from its sponsor organization, the Metropolitan Council, to fully accomplish its objectives. This assumption was supported by the “stakeholder-governed” phrase stipulated in the mission statement; the need for a long-term, broad-based data sharing agreements; the ability to apply for grants; and ability to receive, manage, and spend funds as a collaborative. To build trust that the process was in fact “stakeholder governed, MetroGIS management also recognized a need early on to make a clear distinction between MetroGIS and the Metropolitan Council due to the Council’s various approval responsibilities that impact the operations of MetroGIS’ local government stakeholder community.”

The 1999 MetroGIS Fair Share Financial Model Consultant Team Report carried this concept a step further, noting that “MetroGIS is a work-in-progress, an ad hoc organization not yet able to operate independently.” (p. 7)

23. ***How would the idea of MetroGIS as an independent entity work?***

The answer to this question would vary, dependent on the model for an independent entity in question. However, as part of the process for the 1999 MetroGIS Fair Share Financial Model Consultant Team Report, four criteria were developed as prospective goals for an acceptable structure (p 91):

- It is preferred that membership is inclusive with private and public sectors, including associations; users and producers
- It is preferred that government retains the organizational lead
- The entity should be structured in such a way as to commercially insure its activities as well as the actions of its board
- The entity should be able to obtain state and federal funding and be able to finance its capital expenses

A summary of how the three models evaluated in 1999 (intergovernmental or contractual agreement, non-profit cooperation, and joint powers board) compare relative to these criteria is found on pp. 88-90 of the report. A fourth option, seek creation via special legislation, was not pursued because “MetroGIS did not have sufficient operating history, with an organizational option available under current law ...and therefore could not ...demonstrate to the Legislature any organizational shortcomings and their impact on MetroGIS’ ability to achieve core functions.” (Page 14 Fair Share Study Final Report). This report can be viewed at http://www.metrogis.org/about/business_planning/fair_share/fair_share_model.pdf.

Other factors established for evaluating an alternative organization structure were as follows (page 87 of Consultant’s Report-Fair Share Financial Model Study):

- accountability;
- efficiency;
- political feasibility;
- administrative capability;
- equity; and
- service capacity.

When analyzing the options, these criteria were further defined as follows:

- Is the structure flexible (does it allow the involvement of essential participants, can new members be added, can members be both private and public, both metro and non-metro)?
- Is the structure accountable to both producers of data and users of data?
- Is the structure feasible (legal, fair, and equitable)?
- Is the structure efficient and cost effective?

24. ***Why was the idea of MetroGIS as an independent entity not implemented?***

According to MetroGIS staff, there were several contributing factors to the conclusion following the initial business planning process, and corroborated during the second business planning process, that retaining the structure established in 1996 was the best alternative, as opposed to seeking an independent entity. Contributing findings included:

a. 1998 Benefits Study (Page 14 Fair Share Study): “Significant effort has been invested in communicating that the Metropolitan Council is a participant in the MetroGIS process, one of twelve votes on the Policy Board, and that MetroGIS does not report to the Council. This communication effort appears to have been successful. According to the results of Dr. Craig’s MetroGIS Benefits Study, the Council’s image as a facilitator and a partner, as opposed to a regulator, has improved since it launched the MetroGIS initiative.

Consequently, some participants now argue that the need for a separate organization is lessened, given the Council's delivery on its goal to promote collaborative and cooperative solutions with its local government partners to address regional issues and opportunities.”

b. (Page 15 Fair Share Study): “...During subsequent dialogue that occurred at the Peer Review Forum and with the Policy Board, concerns were raised that MetroGIS seemed to be heading on a course that could lead to an unintended additional level of bureaucracy. Policy Board members also raised concerns about a JPA structure shortcoming concerning its inability to guarantee voting memberships on the Policy Board for cities and watershed districts.”

c. April 2000: The Policy Board approved the first MetroGIS Business Plan, which the Council also consequentially approved. Several reasons were cited for maintaining the established structure (page 13 of Business Plan):

- (1) No evidence that a Joint Powers Board is needed to accomplish MetroGIS objectives.
- (2) Without a compelling need for a change in organizational structure, it is advisable to retain the existing structure with a minimal level of government structure,
- (3) Subscription fees needed to support an independent structure are not embraced by those who would be charged.
- (4) Prudent to monitor efforts nationally related to cost-effective governance of multi-participant geospatial initiatives.

d. Council approval of first Business Plan: (page 23)...”potential subscribers indicating concerns about budgeting for subscription fees, the burden of establishing a subscription system appears greater than originally thought. MetroGIS staff also received input from senior management with Metropolitan Council. The Metropolitan Council recognizes the importance of MetroGIS and its role in insuring the Council's ability to effectively carry out its business functions. Senior Council management indicated that they would support requesting from the Metropolitan Council an indication of its continued support and sponsorship for MetroGIS and the current stakeholder-driven organizational structure, subject to acceptance by the MetroGIS Policy Board. This recommendation assumed compliance with five conditions, all of which have been satisfied except for reexamination of the concept of subscription fees once regional solutions to common information needs are in place, which has not yet occurred, although substantial progress has been made.”

e. Page 18 of 2000-2003 Business Plan – Section 6.0: “... MetroGIS relies upon contributions from many stakeholders and sponsorship from the Metropolitan Council, and therefore, the costs to maintain MetroGIS are embedded in the budgets of many organizations. The business plan proposes

continued contribution of overhead expenses from the Metropolitan Council that could approximate \$100,000 per year for office space, office equipment, and overhead services (see Appendix D). It is also assumed that counties will continue to provide valuable data sets and technical expertise to the MetroGIS effort. While the total value of all contributions has not been estimated, it should be acknowledged that the cost of MetroGIS significantly exceeds the present and proposed operating budgets for direct program expenses.”

f. October 2003: The Policy Board concluded as part of the 2003-2005 MetroGIS Business Planning process that “the current organizational structure for MetroGIS is effective with regard to accomplishing the MetroGIS mission, and therefore, no significant changes are required”.

Accountability

25. Was there ever thought given to an “end” (completion of mission)?

Yes. This topic has been discussed. Throughout MetroGIS’s existence there has been an acknowledgement that an effective collaborative environment must involve an ongoing process, to remain relevant as needs and capabilities change over time. The Policy Board’s perspective (and that of other leadership) is summed up by the following quote from the July 2001 Policy Board meeting. At that time, the Board modified MetroGIS’s team structure and meeting expectations:

“...Member Fiskness argued that MetroGIS’s work is not a one-time effort but that it is comprised of an on-going effort to guide the development of GIS coordination to make it a cost-effective tool to serve the public. He then offered a quote he believed to be fitting for MetroGIS “Without the effort of individuals nothing is done” and “without institutions nothing survives”. Member Fiskness noted that MetroGIS needs to come up with a structure that will institutionalize the system. Chairperson Reinhardt noted that MetroGIS was developed as a flexible structure so that there is flexibility in the process. Member Schneider further noted his belief that the Policy Board needs to continue meeting quarterly from the perspective of keeping abreast of the changing technology, needs and opportunities...”

Stated another way, achieving regional solutions to common geographic information needs, the reason for MetroGIS’s existence, results in product standards but also related organizational roles and responsibilities to sustain on-going availability of commonly needed data that meet the agreed upon specifications – accuracy, currency, completeness, and interoperability with other endorsed regional solutions. Nine such solutions are currently in place and several others are in process. Once a regional solution is implemented, the emphasis turns to monitoring for user satisfaction. The active monitoring

process often results in periodic modifications to maintain relevance to changing user needs and custodian capabilities. The cycle then repeats as long as the business need exists. Since policy questions can and do arise during each phase of the cycle, there is a continuing need for policy direction and resolving of inter-organizational differences, primary functions of the Policy Board.

In short, component projects may very well come to an end, but there is a continuous practice of collaboration to address common needs in order to leverage investments and minimize duplication of effort.

26. ***What are the testimonials regarding the value of MetroGIS?***

The annual MetroGIS Performance Measurement Report includes testimonials to address the metric of “improved decision-making and better service to the public.” Testimonials received as of the end of 2005 include the City of Roseville; the Metropolitan 911 Board; SRF Consulting Group, Inc.; the Metropolitan Airports Commission; Riley-Purgatory-Bluff Creek Watershed District; Metropolitan Council; the Metropolitan Mosquito Control District; and TIES (Metro Area School District Consortium).

For complete testimonials, see:

<http://www.metrogis.org/benefits/testimonials/index.shtml>

MetroGIS’s efforts have also received several significant recognitions for valuable contributions to the fostering collaborative solutions, including:

- Exemplary Systems in Government (ESIG) Award for Enterprise Systems (2002), bestowed by the Urban and Regional Information Systems Association (URISA)
- Grand prize winner of the ESRI/National Geographic International Geography Network Challenge (2001)
- Two State of Minnesota Governor's Council on Geographic Information Awards for Exemplary Projects (1998 and 1999)
- Minnesota Chapter of the American Planning Association Special Merit Award for an Outstanding Planning Tool (2002)
- First operational substate geospatial data collaborative in the country to be recognized as an I-Team (2002)
- Selected by the Open Geographic Consortium (OGC) as its top example of a model regional data distribution architecture (2005)
- Among a select international field of collaborative efforts to be highlighted in a book authorized Ian Masser, internationally respected expert on spatial data infrastructures, through which he called attention to efforts most likely to achieve the vision of National Spatial Data Infrastructures. (2005)

27. ***What benefits does MetroGIS provide to stakeholders? (Reinhardt letter)***

The following benefits provided by MetroGIS to stakeholders were offered in the letter to the CDC Workgroup from Commissioner Reinhardt:

- Metropolitan Council – benefits outlined in the Program Evaluation and Audit, pages 14-16:
 - 116 internal users of data made available through MetroGIS, and many say this data is important or essential to their job
 - Reduced cost of assembling data
 - Improved data quality and reliability of decisions made from that data
 - Helps fulfill Council mandates for managing transportation, wastewater, parks, and to guide efficient growth
- Metropolitan area taxpayers – the benefits include the efficient use of tax dollars by many levels of government:
 - Reduced cost to get better quality data to the federal, state, regional, and local agencies, such as school and watershed districts, which cross county boundaries
 - Business, schools and non-profits also benefit
- County government – the benefits to counties are more as the data producers than users:
 - Less time spent providing data to other users
 - More opportunities to collaborate on related projects, which may provide even more effect in future
 - When the Metropolitan Council has access to high-quality data, it is easier for counties and cities to work with the results
- Public – meets the public’s expectation that this data be available

28. ***How are MetroGIS activities and expenses distinguished from Council GIS activities and expenses in the Metropolitan Council budget and management system?***

In response to the October 17, 2005 *MetroGIS Program Evaluation and Audit Report*, Council management reinstated a previous practice of distinguishing between three kinds of GIS activities and expenses: MetroGIS Coordination, MetroGIS Participation, and Metropolitan Council GIS. Details regarding this coding scheme can be provided on request.

Attachments

1. MetroGIS Mission Statement as Adopted January 1996
2. MetroGIS: Fostering Inter-Organizational / Sector Collaboration
3. MetroGIS Annual Expenditures and Budget Amounts: 1995-2005
4. Cost of Data Acquisition and Development – With and Without MetroGIS

Attachment 1

Excerpt from MetroGIS Staff Report to the Metropolitan Council Community Development Committee January 17, 1996

DEFINITION OF THE COUNCIL'S ROLE AS LEAD FACILITATOR

Council GIS staff have been asked on several occasions to explain what is meant by the Metropolitan Council assuming the role as lead facilitator for the MetroGIS effort. To insure that this very important role is communicated consistently to all stakeholders, we suggest that it be in written form and included on the decision making diagram. The following language is proposed (revisions suggested by the MetroGIS strategic planning group are highlighted – added language is in bold and *deleted language is in italics*):

“The Metropolitan Council has accepted a leadership role to create a metro-wide GIS to facilitate creation of the MetroGIS; an entity through which widespread sharing and exchange of GIS data sets and technology can become a reality among public agencies and private-sector organizations within the seven-country metropolitan area. *“Facilitate”* “Leadership” is defined as the following activities:

Finance, coordinate, and support the strategic planning and decision making processes,

Develop and maintain regional data sets (e.g., land use, census geography/TAZ, road centerline & census address range, soils, imagery, administrative boundaries),

Provide support (staff and/or equipment) to the visioning/coordination team and to strategic issue teams,

Finance and support communication with stakeholders (activity status and opportunities to participate),

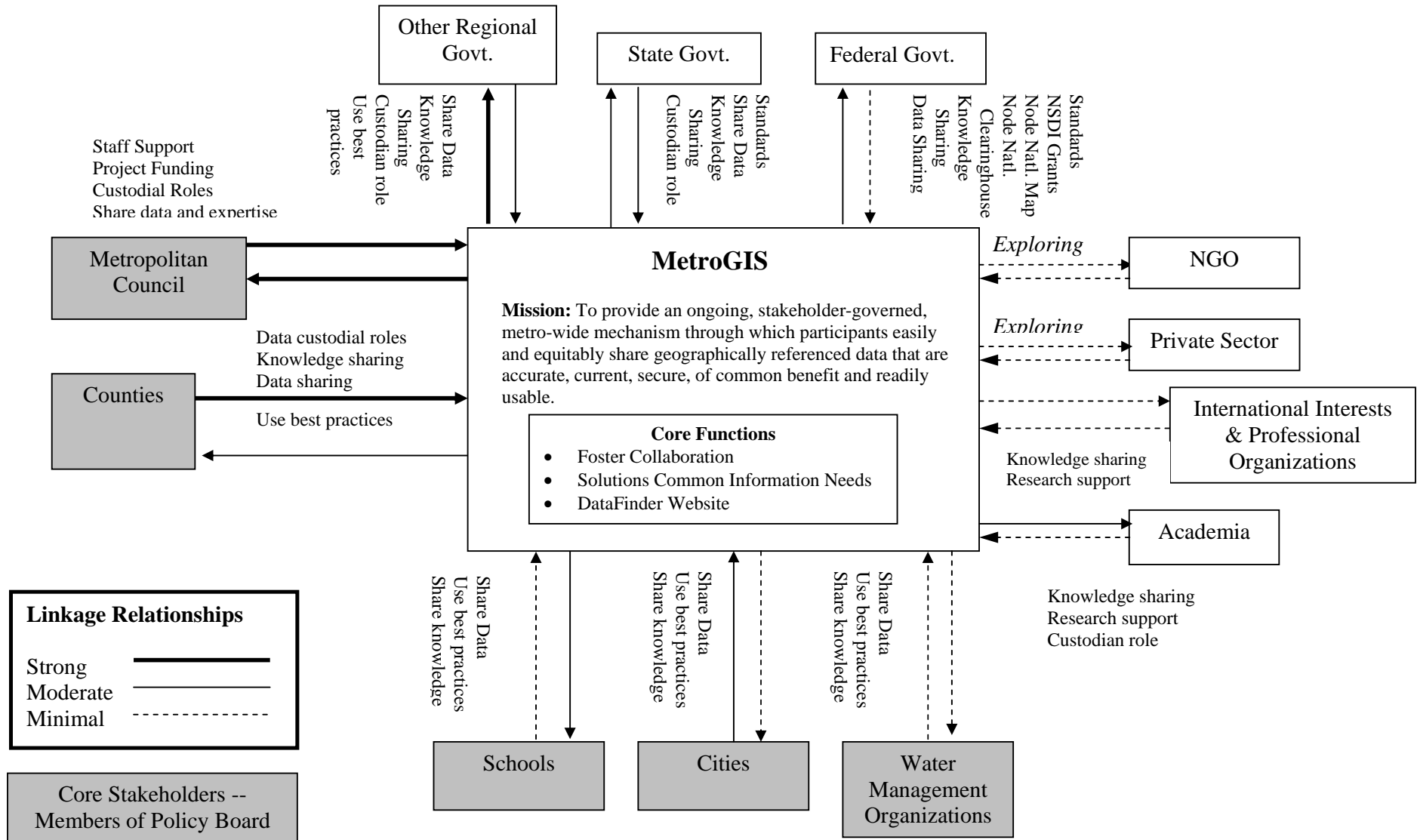
Selectively design, finance, coordinate, and staff projects that address local GIS and MetroGIS program needs.

Facilitate the execution of data/cost sharing agreements among stakeholders,

Participate financially **in a fair share** of the long term maintenance of the MetroGIS,

Any other activities consistent with the strategic plan and acceptable to affected parties.”

MetroGIS: Fostering Inter-Organizational/Sector Collaboration



Source: MetroGIS - 12/2005
 Derived from diagram created by
 Japanese delegation 5/2002

Attachment 3

**Annual Expenditures and Budget Amounts
For Supporting MetroGIS's Fostering Collaboration Function**

Actual Expenses

Expense Category	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total	%
Dedicated Staff Salary and Benefits	\$24,000	\$96,400	\$116,100	\$112,900	\$128,500	\$128,500	\$100,600	\$101,500	\$104,400	\$110,800	\$112,000	\$1,135,700	41.4%
Professional Services/Special Projects	\$3,800	\$13,600	\$73,200	\$69,790	\$98,700	\$88,830	\$36,400	\$107,985	\$19,462	\$25,776	\$4,151	\$541,694	19.7%
Data Quality/Access Enhancements	\$0	\$43,700	\$15,000	\$0	\$5,000	\$0	\$0	\$0	\$0	\$0	\$6,869	\$70,569	2.6%
Data Sharing Agreement	\$0	\$200,000	\$145,900	\$132,200	\$58,800	\$43,800	\$43,800	\$48,100	\$48,100	\$49,000	\$28,000	\$797,700	29.1%
Other Non-Staff Operating Costs	\$3,000	\$57,600	\$37,000	\$32,900	\$28,200	\$6,300	\$10,000	\$10,700	\$6,900	\$2,856	\$1,958	\$197,414	7.2%
Total	\$30,800	\$411,300	\$387,200	\$347,790	\$319,200	\$267,430	\$190,800	\$268,285	\$178,862	\$188,432	\$152,978	\$2,743,077	100.0%

Approved Budget

Expense Category	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total	%
Council Funded													
Dedicated Staff Salary and Benefits	\$24,000	\$96,400	\$116,100	\$112,900	\$128,500	\$128,500	\$100,600	\$101,500	\$104,400	\$110,800	\$112,000	\$1,135,700	33.9%
Data Sharing Agreement	\$0	\$229,600	\$265,700	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$49,000	\$49,000	\$28,000	\$996,300	29.7%
Other Non-Staff Operating Costs	\$6,800	\$124,800	\$203,400	\$229,000	\$173,800	\$132,300	\$150,000	\$55,000	\$51,500	\$37,000	\$58,750	\$1,222,350	36.4%
Total	\$30,800	\$450,800	\$585,200	\$416,900	\$377,300	\$335,800	\$325,600	\$231,500	\$204,900	\$196,800	\$198,750	\$3,354,350	100.0%

Notes:

- 1) Staff salaries are an estimate prepared by the MetroGIS Staff Coordinator. Access to actual salary information was not requested
- 2) Budgeted non-staff amounts are actual
- 3) Records kept by the MetroGIS Staff Coordinator are the source for expenditures. The Council's accounting system does not permit expense coding by the categories relevant to MetroGIS's needs.
- 4) \$100,000 in federal grant funding is included in the 1998 and 1999 Professional Services expenditures

Last Updated: March 8, 2006

Source: MetroGIS Staff Coordinator

Attachment 4

Cost of Data Acquisition and Development With and Without MetroGIS

Introduction:

Implementation of Endorsed Regional Datasets saves data users substantial time and effort on an ongoing basis in the acquisition and readying of data for internal uses. Trusted regional data solutions also eliminate the need to develop internally, therefore saving development data costs and as importantly expedites decision making.

In the Council's case, the GIS Unit invests about 20% less resources (around \$200,000) annually on data acquisition and development (55 versus 75 percent) than is typical in non-collaborative settings. This reduction is due to the investment in "fostering collaboration". Therefore, one could conclude that, at a minimum, the Council's data acquisition expenses would increase to the typical expense (75 percent of the GIS Unit budget) if MetroGIS were to cease to exist. However, the quality of the data would also likely diminish because compliance with standards would not be monitored and producers would not have defined roles and responsibilities.

Note: This analysis also does not take into account lost opportunity costs associated with as yet undefined solutions or those in progress.

Dataset (March 2006)	Custodian (Primary/Regional)	With MetroGIS	Without MetroGIS
⇒ Parcel data	Counties / Metropolitan Council	Support of Fostering Collaboration Function + custodian expense of \$28,000 annually to 12/2008 + 0.1 FTE	Possibly upwards of \$400,00 (If counties reinstitute fee for access + staff cost to locate, and ready data for use.)
⇒ Street Centerline data	Metropolitan Council ⁽¹⁾	Support of Fostering Collaboration Function + contribution to data maintenance expense + 0.1 FTE Agreement with Census Bureau maintained.	If counties the source: 1-2 FTE to assemble and ready data for use + contractor to fill in gaps (\$35-50k, + possible fee for access. If vendor the source: \$35-50k but census bureau agreement may not be possible + quality might be as good)
⇒ Census Geography data (<i>aligned with locally-produced streets and parcels</i>)	Metropolitan Council	Little to none permanently (Agreement with Census Bureau to use locally endorsed regional solution)	\$43,500 +/- for 2010 version (Most recent consultant fee – pre Census Bureau agreement)
⇒ Emergency Preparedness (<i>numerous locally produced data, standardized use across jurisdictions</i>)	Varied / Counties	Support of Fostering Collaboration Function	Unknown (Staff cost to locate, and ready data for use. Also, possible fee for access)
⇒ Land Cover	Varied / DNR	No cost	No cost (Improvements consistent with Council needs may be more difficult)
⇒ County/MCD Boundary data	Counties / Metropolitan Council	Support of Fostering Collaboration Function	Unknown cost (Staff cost to locate, and ready data for use. Also, possible fee for access)
⇒ Planned Land Use data	Cities / Metropolitan Council	Support of Fostering Collaboration Function + custodian expense of about 0.4 FTE	Unknown cost (Lack of standards could increase effort)
⇒ Socioeconomic characteristics of areas (<i>standardized search format and conversion for ready use</i>)	Varied / University of Minnesota Population Center	Support of Fostering Collaboration Function	Minimal to None (Improvements consistent with Council needs may be more difficult)

⁽¹⁾ The current solution relies upon The Lawrence Group performing primary data production. A transition is underway where most if not all of the counties will assume this role in accordance with Emergency Dispatching business functions. The Council has a critical need for these data.