



Metropolitan Council

Program Evaluation and Audit

COMMUNITY DEVELOPMENT

METROGIS

October 17, 2005

INTRODUCTION

Background

MetroGIS is a voluntary, unincorporated collaboration of government interests from the Twin Cities area, including cities, counties, school districts, watersheds, and state and federal agencies. Counties play an especially prominent role as the source of much of the data that is being integrated into a regional dataset under shared standards. Academic institutions, non-profits, utilities, and private organizations are also involved in MetroGIS.

The concept of a regional GIS for the seven-county metropolitan area was first suggested by a Metropolitan Council representative to the GIS/LIS state conference in September of 1995. The Council held a series of meetings to assess the need and support for a metropolitan GIS in December 1995. Representatives of 22 public, non-profit and private sector organizations attended. The bulk of the attendees became the first MetroGIS Coordinating Committee. The group agreed on a set of strategic issues and statement of intent that was honed into the mission statement for MetroGIS. (MetroGIS Website, “MetroGIS History”)

On February 8, 1996, the Metropolitan Council voted to approve a Community Development Committee recommendation to approve the interim plan for MetroGIS, appoint a Council member to the project, and approve its role as the facilitator of that effort. (Metropolitan Council Minutes, February 8, 1996)

The mission statement of MetroGIS is:

Provide an ongoing, stakeholder-governed, metro-wide mechanism through which participants easily and equitably share geographically referenced data that are accurate, current, secure, of common benefit and readily usable.

MetroGIS is managed by assigned personnel in the GIS workgroup of the Council’s Community Development Division.

The initial focus of MetroGIS was to enhance compatibility of GIS data among the various local units of government who maintained it through the development and use of voluntary standards. The project has been successful in identifying various regional GIS data needs and creating or modifying datasets to address the identified needs. In particular, MetroGIS achieved a milestone in 2004 when it approved a parcel data-sharing agreement with the seven metropolitan area counties.

MetroGIS data is used not only by public agencies, but also by private and non-profit entities. Various parties, including concerned neighbors, developers and other businesses have an interest in GIS data for planning and coordination efforts. MetroGIS operates a website where users can locate and download GIS data. Most MetroGIS datasets are accessible to all, and there is no charge to users for any MetroGIS data.

MetroGIS is a voluntary, unincorporated collaboration. It is governed by a policy board of up to 15 members, representing various units of government across the region. One member is also a member of the Metropolitan Council, appointed by the Council.

Purpose

The Metropolitan Council is the primary funder of MetroGIS, providing the only budgeted cash for program operations. Additional cash contributions and grants from other organizations have been received for specific projects throughout the program's history. Other organizations also provide in-kind support such as staff time, data and related resources to help MetroGIS accomplish its mission. The Council's MetroGIS budgets for the last five years are as follows:

- 2001: \$325,600
- 2002: \$231,500
- 2003: \$204,900
- 2004: \$196,800
- 2005: \$198,750

Now in its tenth year of operation, MetroGIS has reached a point where many of its original goals have been met – most prominently, the goal of providing a single license for parcel data from all seven metropolitan area counties. In addition, the Council's original stated intent to financially support MetroGIS expired in 2003. Given the evolution of MetroGIS, the growth of the region, high demand for planning information, and changes in technology and communications, it seems that now is an appropriate time to evaluate its current structure, governance, functions, and funding relative to Council needs and priorities.

Scope

This review, while encompassing information from the establishment of Metro GIS in the 1990's to the present, is primarily focused on the years 2003 – 2005. The focus of the review is to examine MetroGIS' effectiveness and efficiency from the perspective of the Metropolitan Council.

Methodology

The evaluation of MetroGIS, its structure, function and funding mechanisms included the following:

- A survey of Council GIS users to assess their need for and use of MetroGIS data and services,
- Identification of current and potential future benefits to the Council from MetroGIS.
- A review of MetroGIS budgets and expenditures for the last 3 years,
- Valuation of in-kind contributions to MetroGIS for the last 3 years,
- A broad-level review of MetroGIS processes and products,

- A review of Metro GIS policy board, coordinating committee and work groups meeting agendas and minutes.
- A review of 12 other GIS websites for data and service comparisons,
- A review of Minnesota Statutes relating to the Council and how they correspond to MetroGIS data,
- Interviews with nationally recognized GIS experts and Council staff,
- Evaluation of possible models for building and running MetroGIS as a successful metro-wide collaboration.

OBSERVATIONS

ORGANIZATION

MetroGIS is a voluntary, unincorporated collaboration. It is governed by a Policy Board of up to 15 members, made up of officials representing various units of government across the region.

The Policy Board also has a Coordinating Committee that advises them on policy matters and helps set the Board's agenda. A technical team and special workgroups report to the Coordinating Committee.

Metro GIS was built from the middle out, starting with a Coordinating Committee, adding advisory teams and, finally, forming a Policy Board. The roles and responsibilities of the various entities are discussed in the following sections.

The organizational structure is unique. It was created to facilitate a collaboration of officials seeking to meet the needs of over 300 governmental units in the region. The structure's intent was to promote high levels of policy debate about geospatial data and its implications.

The Policy Board

The Policy Board has 15 members, including a chairperson and a member of the Metropolitan Council. All of the members are selected by the organizations they represent, and the terms are dictated by the organizations as well. One member is also a member of the Metropolitan Council and is appointed by the Council to serve on the Board. The term of the appointment is the length of the member's Council term. (MetroGIS Operating Guidelines, adopted 1/28/1998, revised 7/28/2004) The Board's purpose is to effectively guide the implementation and operation of MetroGIS.

The Board performs several functions that are critical to the success of MetroGIS. Its role is to:

- Determine and prioritize the user needs and interests to be served by MetroGIS.
- Represent essential participants and system enhancers, and serve as liaisons with their respective policy bodies.
- Represent secondary beneficiary stakeholders of MetroGIS,
- Maintain an up-to-date business plan to guide the operations of MetroGIS.
- Determine the appropriate mechanisms and policies for development and implementation of MetroGIS.
- Ensure that the decision-making process involves all relevant and affected parties, is equitable to everyone, and achieves the broadest efficiencies possible for GIS data in the metropolitan area.

Policy Board decisions require a simple majority vote, but a consensus process involving all Policy Board members is encouraged for matters fundamental to the long-term success of Metro GIS. (MetroGIS Operating Guidelines, 2004)

Based on a review of meeting minutes, the MetroGIS Policy Board has always had a quorum for its meetings. The average rate of absence for meetings is about 3 members per meeting.

Coordinating Committee

The Coordinating Committee of Metro GIS is made up of staff or representatives of the Metropolitan Council, all metropolitan counties and classes of major producers and users of geographic information. Each organization represented on the policy board has a representative on the Coordinating Committee. The organization selects its representative and sets their term of service. Each organization has no more than one vote. The Coordinating Committee's purpose is to advise the Policy Board on matters concerning the implementation and operation of MetroGIS.

The Committee has the following powers and responsibilities:

- Advise the Policy Board on matters concerning the design, implementation, and operations of MetroGIS to include, but not be limited to: datasets and their characteristics which provide the greatest utility for the MetroGIS community (regional datasets/solutions), standards and/or guidelines that facilitate data sharing among MetroGIS stakeholders, and data delivery and access procedures.
- Oversee performance measures and user satisfaction monitoring to periodically evaluate who is using DataFinder, what data are being accessed, and user satisfaction with the functionality and data provided.
- Provide opportunities to share GIS related knowledge that can improve the efficiency and effectiveness of organizations that comprise the MetroGIS community.
- Oversee implementation of MetroGIS policies and standards.
- Advise the Policy Board on the content of its business plan to guide the operations of MetroGIS.
- Ensure an effective means of communication between the Policy Board, the Committee, the Technical Advisory Team and any ad hoc work groups.
- Coordinate the work of the Technical Advisory Team and the ad hoc work groups.
- Remain current on new trends for Geographic Information Systems technology and related capabilities as they relate to the MetroGIS community.
- Provide for coordination and outreach with entities such as the Governor's Council on Geographic Information, LMIC, Mn/DOT, State Demographer, and federal agencies.

A Committee motion for a recommendation to the Policy Board must be supported by at least 75 percent of the members present to be approved, unless a greater number is

required by law or by another provision of MetroGIS Operating Guidelines (2004). If support for the recommendation is less than unanimous, the differing opinion(s) are carried forward with the recommendation. In situations where issues of policy arise that are beyond the Committee's scope or where additional direction is needed, the matter is passed to the Policy Board for consideration and direction. A review of Coordinating Committee meeting minutes showed thorough review of potential Policy Board items by the Coordinating Committee.

A Committee motion that will not result in a recommendation to the Policy Board must be supported by a simple majority to be approved, unless a greater number is required by law or another provision.

Like the Policy Board, the Coordinating Committee has always had a quorum for its meetings.

The Technical Advisory Team

The Technical Advisory Team is made up of 10 to 20 members who have acknowledged expertise related to the team's current issues. The purpose of the team is to foster information sharing related to GIS technology within the community and to review technical issues brought to it by the Coordinating Committee, Metro GIS workgroups and Metro GIS staff.

In addition, work groups are established to address specific areas. Current workgroups include the: address, county data producers, E911 address, street centerline, emergency preparedness, highways and roads, lakes and wetlands, existing land use, and socioeconomic workgroups.

The MetroGIS Liaison

The Metropolitan Council funds the staff members who are assigned to MetroGIS, including the position of MetroGIS liaison, whose primary purpose is to organize and manage MetroGIS. The liaison acts as the lead staff position for the Policy Board, the Coordinating Committee and Technical Advisory Team. Also, the liaison, with the Coordinating Committee, prepares the annual business plan for review and approval by the Policy Board.

METROPOLITAN COUNCIL FUNDING OF METROGIS

Expenditures for MetroGIS by the Metropolitan Council are recorded on Council financial records under organizational unit 21305 and 21710. The 21305 cost center includes costs for both MetroGIS and the Council's GIS department. In fiscal year 2002 the costs for MetroGIS were recorded separately from the GIS department. A staff decision was made at that time to combine the expenses under one code for 2003 and beyond. The MetroGIS expenditures for the period of January 1, 2003 through June 30, 2005 were culled from the GIS budget and expenditures by the Council's GIS Manager

and the Metro GIS Liaison. The expenditures have been divided into two categories, MetroGIS stakeholder expenses and MetroGIS Coordination expenses.

Overall, the Metropolitan Council's budget for MetroGIS support has decreased from nearly \$600,000 in 1997 to the current 2005 budget of \$198,750. The table identified as *Metropolitan Council Support to MetroGIS* identifies what makes up the expenditures of the Council for MetroGIS.

Table 1. Metropolitan Council Support to Metro GIS

	2003	2004	2005**	Benefit to Council
Stakeholder Expenses				
Parcel data agreements with counties	\$ 49,210	\$ 49,000	\$ 28,000	Access to parcel data needed for many Council core activities
Coordination Expenses				
Contracts for professional services	\$ 24,367	\$ 22,867	\$ 3,570	Support for initiatives to efficiently and effectively achieve the core functions
Meeting expenses, travel, other non-staff operating expenses.		\$ 490	\$ 1,563	
Salary Budget*	\$200,000	\$110,000	\$112,000	Includes 1.75 FTE – coordinator and .75 additional technical staff
Total Stakeholder and Coordination Direct Expenses**	\$273,577	\$182,357	\$145,133	
Actual Budget	\$204,900	\$196,800	\$198,750	
In Kind Contribution				
Street centerline data licensing (Council GIS)	\$ 47,800	\$ 47,800	\$ 47,800	Council would have expense with or without the existence of Metro GIS.

*Budget is used to provide consistent data for all 3 years.

** 2005 expenses are actual through June 2005 with the exception of salary which is included as budgeted amount.

PARTNERSHIPS

Current Partnerships

Ten organizations have assumed a total of 23 roles in support of endorsed regional solutions to common data needs across the region, as summarized in Table 2.

Table 2. Current Partnerships with MetroGIS

Partner	Collaborative Role	Level of Support *
Anoka County Carver County Dakota County Hennepin County Ramsey County Scott County Washington County	Produce and maintain parcel data in consistent format. Submit quarterly updates to regional custodian (Metropolitan Council) in regional format. Produce and maintain boundary data, submit quarterly updates to regional custodian (Metropolitan Council) in regional format.	Combined level of support 20+FTEs. This includes surveyors, assessors and GIS staff.
Minnesota Department of Natural Resources	Manage regional database and collaborative process to acquire land cover data compatible with agreed upon data content standards. DNR uses this database to support a number of its metro area natural resources and wildlife management programs.	.5 FTE.
University of Minnesota Population Center	Manage content of Socioeconomic Resources website.	.2 FTE
Metropolitan Council (data management)	Produce census geography data at time of decennial census that align with other locally produced foundation geospatial data. Assemble boundary data produced by counties into regional dataset. Develop and manage regional land use dataset. Assemble parcel data produced by counties into a regional dataset.	\$182,357 actual operating expenses for 2004
Metropolitan Council (data distribution)	Maintain DataFinder and DataFinder Café hardware and software platform and update metadata posted on DataFinder.	Included in the above amount
Metropolitan Council (fostering regional cooperation)	Facilitate collaborative decision-making process, including business planning, performance measures activities, and agreements, as well as, outreach and advocacy efforts to encourage use of and feedback about adopted solutions and best practices.	Included in the above amount.

* County-provided estimates of staff time spent on these tasks totaled 20 or more FTE. However, some of that support may be within an employee's existing job description, which would not constitute a contribution to MetroGIS.

Potential Partnerships

In addition to the partnerships currently in place, there are three potential partnerships being developed.

Table 3. Potential Partners for MetroGIS

Potential Partners	Potential Product
Anoka County- Emergency Preparedness Carver County-Emergency Preparedness Dakota County- Emergency Preparedness Hennepin County-Emergency Preparedness Ramsey County-Emergency Preparedness Scott County-Emergency Preparedness Washington County-Emergency Preparedness	Development of landmark data resources.
Minnesota Department of Natural Resources Metropolitan Mosquito Control Environmental Services	Development of surface water model data resources.
Metropolitan 911 Board	Development of addresses of habitable units data (may reduce current Council GIS expenses by up to \$25,000/yr.)

The Council is currently the custodian of most of the MetroGIS datasets. When additional datasets are developed, other partners may share in the custodial roles for the data. Under the standardized data agreements established by MetroGIS, the use of any new datasets would be accessible by the Council for its business purposes.

Identified Priority Information Needs for MetroGIS

The following table shows the original 13 priorities for MetroGIS and a land cover priority that has been addressed although not part of the top ranked 13. Items 4, 6, 10 and 11 have not been addressed. The others are either complete or are in the process of being implemented.

Table 4. Original Priorities for MetroGIS

Short Title	Rank	"I need to know" statements, as provided by stakeholder community
Jurisdictional boundaries	1	Boundaries and characteristics of a specified jurisdiction (ex: city, school district, county, police and fire districts)

Street addresses	2	Street addresses for specified locations.
Planned Land Use	3	About land use or development plans that have been officially adopted by public bodies.
Rights to Property	4	Who has rights to a property, including ownership, leases, easements, right-of-way.
Parcel boundaries	5	Boundaries and location of a specified parcel.
Lakes, wetlands, etc.	6	Locations and characteristics of water features (ex: lakes, wetlands, floodplains, aquifers, watersheds).
Existing Land Use	7	How a piece of land is being used, including whether or not it is vacant.
Census Boundaries	8	The boundaries and characteristics of census areas (ex: census blocks, block groups, tracts).
Where people live	9	Where people live and how to contact them.
Land Regulations	10	Regulations that affect the use of a piece of land, such as zoning.
Highway / road networks	11	Locations and characteristics of roads/highways.
Socioeconomic characteristics of areas	12	The socioeconomic characteristics of an area's population (ex: census tract, count, city)
Parcel identifiers	13	A unique identifying attribute of a land parcel, such as parcel ID.
Land Cover	56	The vegetation growing at a specified location or within a specified area

The Metro GIS regional parcel dataset has 66 dataset attributes. Not all of these attributes have been populated by all of the counties yet. In most instances, the counties provided the most accessible data to MetroGIS initially. It has been the project's practice to work with what is available and as system upgrades are made, MetroGIS works with the local units of government to provide the standardized data. MetroGIS has used some of its budgeted funds to facilitate the completion of the datasets. For example, Anoka and Washington Counties are currently overhauling their tax database systems. When the new systems are completed, the counties will submit all of the data.

Other Contributions to MetroGIS

In addition to the cash resources provided by the Council, MetroGIS has received grants and in-kind contributions from its local partners. Table 5 summarizes contributions to MetroGIS from other entities.

Table 5. Non Cash Contributions to Metro GIS

	Description of Contribution
Provide Data for Endorsed Regional Solutions	
More than 40 Private Sector/Government entities - Land Cover	Financed and managed data collection (third party and internal staff). ES contributed \$200,000 to procure the data to facilitate storm water projections, needed to help in the evaluation of storm water flow into sewers and volume-based pricing.
More than 25 Government Entities – Socioeconomic Characteristics	Data producers. In some cases, format changes to accommodate MetroGIS community preferences.
More than 150 Cities - Planned Land Use	Participated through Comp Plan process w/volunteer digital data.
Outreach / Communication / Advocacy	
(6) County-based GIS User's Groups	Effective source for tracking GIS activity in each county and to communicate regional best practices and project status
Governor's Council on Geographic Information (GCGI)	Vehicle through which to share knowledge and advocate for the use of common standards in statewide geospatial policy
Minnesota GIS/LIS (newsletter and annual conference)	No fee use of their quarterly newsletter to submit update articles + annual conference an outstanding resource
Northstar Website	No fee use of state's server to support main MetroGIS website - www.metrogis.org
Participation on Committees and Special Purpose Workgroups (2004)	An estimated total of 642 people/hours was contributed in 2004. Assuming an average value of \$50/hour, the value of this contribution for 2004 is \$32,100.
(62) Cities (organizations not individuals)	
(64) Other local government (organizations not individuals)	
Many other entities	
Collaborative Environment & Results Leveraged by Others	
MNI Land Management Information Center	No fee for hosting of a component of DataFinder platform; staff serves as a valuable technical resource.
USFWS partner in collaborative wetland updates project	\$7,500 contribution in 2004 for most recent imagery plus technical support.
Metropolitan Mosquito Control District - partner for imagery	\$7,000 contribution in 2004 for most recent flight plus a similar amount for the previous flight.
Metropolitan Airports Commission - general data access	Goal to establish as an annual contributor for data support costs ranging from \$10,000 to 20,000/yr.
Mn/DOT - studies and data policy development	MetroGIS's decision-making structure utilized, ensuring coordination within Metro Area.
U.S. Geological Survey/Federal Geographic Data Committee	Advocacy for National Spatial Data Infrastructure policies that are valuable locally, and grants of over \$168,000 to localities to further assist with data development (consistent with MetroGIS data)
Lincoln Institute - Land Availability project	Council is one of five pilots that are expected to result in the development of improved methods.

THE BENEFITS OF METROGIS

Stakeholder Identified Benefits of Metro GIS

In 2002, MetroGIS hired Jeanne Landkamer of Landkamer Consulting to interview MetroGIS users and assess how they use the system, as well as what comments and suggestions they might have about MetroGIS. Landkamer's interviews document the following comments from some MetroGIS stakeholders:

Technology Information and Education Services (TIES) is a cooperative of 36 Minnesota school districts, mostly in the metro area. TIES has used MetroGIS data to assist districts with school attendance areas, walking routes and crossing guard locations for parents and students to determine the safest routes to school. TIES' GIS consultant said: *TIES probably would not have even developed a GIS capability if it hadn't been for MetroGIS. What MetroGIS did was provide an inexpensive street file, which you have to have for mapping. And MetroGIS was the leader in negotiating with counties to provide other governmental units with parcel lines.*

SRF Consulting Group, Inc. is a full-service consulting firm providing a wide range of planning, design and in-construction services for local governments, states, and other public entities. A Senior GIS Specialist for SRF said that the regional datasets made available through MetroGIS, and the ease with which they can be acquired through DataFinder Café, allow them to create and map information much more quickly and cost-effectively because the datasets are standard and don't need to be analyzed or checked against one another. This reduces their hours and costs to their clients.

The Metropolitan Airports Commission (MAC) reports using MetroGIS data extensively in its Aviation Noise and Satellite programs. The office uses noise contour data to determine the impact of different operation scenarios on the surrounding area, and has also used MetroGIS data to design, prioritize and manage implementation of sound insulation and property acquisition programs. GIS Specialist Mark Kill of MAC says that he has more confidence in the data now than he has previously. *Its important to us to have a high degree of accuracy in our data. Now we know the data we are using is the same as everyone else's, and our numbers should be able to be replicated.*

Evaluation and Audit interviewed William Craig, the Associate Director of the Center for Urban and Regional Affairs at the University of Minnesota (CURA). CURA conducted a study called *Evaluating the Effectiveness of MetroGIS* in 2003. They surveyed over 200 people who had day-to-day involvement with MetroGIS. The majority stated that it was worth their time to be active in MetroGIS activities, because the project was beneficial to them. Many reported that being able to discuss data analysis and how to use the data more effectively helped them be more effective and efficient in their work.

Metropolitan Council Benefits

MetroGIS User Survey

A survey was sent to 116 identified MetroGIS users. The users included members of the GIS Users Group, as well as an additional list of Council employees receiving MetroGIS data supplied by the GIS Manager. 64 surveys were returned for a return rate of 56%.

The survey asked the recipients to rank several of the datasets available to the users. The ranking choices were:

- Essential to performing my job.
- Very important to performing my job.
- Important to performing my job.
- Somewhat important to performing my job.
- Not important to performing my job.

Of the 13 dataset categories made up of either MetroGIS shared data or MetroGIS data blended with Council data, 9 of 13 were ranked from “important” to “essential” by more than 50% of the users. The categories with the most “essential to my job” rankings were:

- | | |
|---------------------------------|-------|
| • Administrative and Political | 75.4% |
| • Parcels and Property | 67.2% |
| • Natural Resources Hydrography | 59.0% |
| • Transportation Roads | 49.2% |
| • Transportation Other | 37.7% |
| • Utilities | 36.1% |
| • Land Use and Planning | 27.9% |

Reduced GIS costs and increased GIS efficiency

The Metro GIS data sharing agreements reduce data development costs. Rick Gelbmann, GIS manager for the Council, researched seven public and private GIS organizations across the country in 2002. He found that the typical GIS organization spends up to 70-80% of their resources gathering data. At the Council, the GIS department spends about 55% of their time gathering data. This allows his department to spend more of its time working on getting a high quality end product when compared to the typical 15% of time available for output generation in the other organizations he researched. The result, Gelbmann believes, is a better end product for the Council than is available in similar organizations elsewhere. Gelbmann also believes that without Metro GIS it would require several times the current Council GIS budget to achieve the same level of data availability.

The level of detail in the Council’s GIS data has increased because source data are accessible from other organizations through the Metro GIS data sharing agreements. As a

result, the Council can generate more detailed maps and other output dealing with issues like transit, parks, and wastewater plant planning.

The survey and review of Council GIS information does not evaluate each component of the data, but is focussed at a broader categorical level. Collecting data about all of the data elements would be time and resource intensive. As a result, it is not clear whether all of the data provided by MetroGIS is “necessary,” or if some of it is just “nice.” There is no evidence that other, cheaper sources of data were evaluated as possible alternatives to the MetroGIS datasets. It is possible that some data needs could be met by more commonly available data or inexpensive datasets available in the private sector, although the users interviewed for this project did not feel that other datasets could provide what they need like MetroGIS does.

MetroGIS and the Council’s Mandates

The Council has a need for trusted, compatible geospatial data across the metropolitan area to support its transportation, wastewater management and growth management responsibilities.

The mission of the Metropolitan Council is *to develop, in cooperation with communities, a comprehensive regional planning framework, focusing on transportation, wastewater, parks and aviation systems, that guides the efficient growth of the metropolitan area. The Council operates transit and wastewater services and administers housing and other grant programs.* (Council website)

Many of the components of MetroGIS data seem consistent with the Council’s mission and its statutory mandates in *Minnesota Statutes* chapter 473. Some examples of the Council’s work that benefits from one or more lines of MetroGIS data include:

- §473.146, subd 4 – Administer and coordinate transportation planning, with appropriate state, regional and other agencies, counties and municipalities. MetroGIS data provides mapping information on railroads, land use, wetlands, as well as major highways and functional class roads.
- §473.147 – Regional Recreational Open Space Policy Plan. The law requires that a long-range policy plan for regional recreational open space as part of the Council’s Development Guide. MetroGIS provides lines of county parcel data, general land use, census data, wetlands, and major highways and functional class roads.
- §473.25 – Livable Communities Criteria. A number of factors to evaluate the basis for a proposal for livable communities grant include things like linking people to employment, transit and other key policy concerns. MetroGIS data provides parcel data, general land use, regional development framework, water features, digital soil surveys, major highways and functional class roads.

A full review of the possible statutory links to data lines in MetroGIS is provided in Appendix A.

The survey responses from Council staff further indicate that many components of MetroGIS are useful to the core mission and function of the Council.

Grants Opportunities

The ability to utilize the metadata sets has been cited as being instrumental in generating various grants for the Council and participating local units of government. For example, the Council received a grant from the Lincoln Land Institute to fund regular meetings with similar metropolitan regions to discuss land value processes. Also, Ramsey County recently received a CAP grant of \$600,000 for community planning. The county reported that MetroGIS data was key to that effort.

Unique Nature of MetroGIS

During the course of the evaluation, several MetroGIS users and staff commented that MetroGIS is unique, if not one of a kind in its field. Evaluation and Audit's research did not locate any comparable regional organization in the nation. Other areas are working towards regional datasets, but none have used the type of voluntary collaborative model developed for MetroGIS. Many state that the costs associated with an effort of this nature are quite high. For example, a GIS collaboration in Indianapolis cost \$7.5 million per year for four years to build and now costs \$400,000 per year to operate and maintain.

Metro GIS and the Council have received international, national and state recognition for the achievements of Metro GIS. Kathy Colvert of the U.S. Geological Survey said that Metro GIS stands out as a leader in their field. She said the ongoing institutional support based on real world requirements makes them a unique group. She was unaware of any other place that has been able to develop a joint design process.

William Craig, of CURA, also noted that MetroGIS is a unique model in the United States. He was aware of two other attempts to create a regional GIS system in Portland and San Diego, but both failed due to cost constraints. Craig felt that MetroGIS developed data sets and standards much more quickly and cheaply than anyone else, and that they provided a significant value in doing so.

POTENTIAL SCENARIOS FOR METROGIS

Maintain the current structure with no major changes

This option would maintain the current organizational structure, including the Policy Board and Coordinating Committee, with only minor, if any, changes. Under this option, there are several advantages to be gained:

- Organizational efficiencies and partnerships achieved to date can be further utilized and expanded,
- The policy decisions made by the Policy Board create more ownership by local partners than a decision made solely by the Council.
- Participation of cities and counties in developing data standards would be maintained at its current, high level.
- Additional custodians of data could be identified, thus spreading some data responsibilities among other participants if desired.
- The Council's cost to foster the collaboration would likely continue to decrease over time.
- The Council would further develop its constructive, collaborative relationships with local units of government in the metropolitan area.

Some disadvantages could also occur:

- The Council remains the primary funder of the effort, but does not directly control the decisions of the Policy Board or key work groups, except where the budget is concerned.
- The Council does not control the mission and vision of MetroGIS, creating a possibility that the project may not continue to serve the needs of the Council and its programs.

Cost Sharing

This option would maintain the current structure and seek cost sharing from other governmental units to gain access to MetroGIS data. The Policy Board maintains its focus on the community as a whole and also facilitates the ongoing active involvement of the core participants in MetroGIS. Advantages of this approach could include:

- The cost of maintaining MetroGIS would be borne proportionally according to the benefits gained from the data.
- No single entity would have "ownership," of MetroGIS, further illustrating that the program is a collaboration.
- Cost sharing may provide a more stable funding stream over time than reliance on one entity, the Council, to provide funds for the program.

Possible drawbacks could be:

- The acceptance and support of the counties, who supply much of the data, although they are not the biggest users, would be critical. The county data is key to the usefulness of MetroGIS for all users.
- The most “fair” cost sharing method would be to allocate costs by pattern of use, so that the entities who use the most data pay the most. However, maintaining equitable cost sharing would require accurate, reliable data on who is using the system, when and for what.
- Users accustomed to free access to MetroGIS may be resistant to having to pay for the data.

The Withdrawal of Council Funding

Under this scenario, the Council could choose to discontinue its funding and support of the MetroGIS project. The Council would save the amount of its investment in 1.75 FTE and related costs and services.

However, the Council would still need much of the data that MetroGIS maintains, including parcel data and street centerline data. In addition, the established collaboration between the Council and its local partners could be adversely affected, and shared data could be either unavailable or of a lower quality than what is available currently.

The Board as Advisory to the Council

The Policy Board could become an advisory committee of the Council dealing with MetroGIS issues. This approach seems consistent with the Council’s mission to facilitate regional solutions to cross-jurisdictional issues, and could create more Council ownership over MetroGIS. It is also consistent with the Council’s relationship to the Policy Board on the annual budget. The Policy Board proposes a budget to the Council and the Council may adopt, revise or reject the budget.

However, if the change is viewed as prioritizing the Council’s needs over those of its local partners, participation could suffer, as could the quality and availability of MetroGIS data. If other units of government cease to participate, the Council could lose the current financial efficiencies of MetroGIS and incur additional costs to meet its data needs.

This approach could also include or not include increasing the Council’s representation on the Policy Board of MetroGIS as a further option.

Create a fee structure

To support the operational costs of MetroGIS, the Council could charge a fee to for-profit and non-profit organizations for MetroGIS data. A fee to non-governmental users could be separate from or a part of a cost-sharing plan as discussed above. This approach would

further advance a model of equitable cost sharing for MetroGIS users, and would leave no single organization responsible for the ongoing support or administration of MetroGIS. The function would be a more independent entity with funding from its users.

However, for profit and non-profit firms would not absorb the MetroGIS fees. They would likely pass them along to their customers, some of whom are local governments. Also, fee collection poses some logistical and cash flow issues that would require careful planning to manage. Finally, like cost sharing, an equitable means of assessing costs to the user is by their use. Use and user data will be required.

RECOMMENDATIONS

- 1. The Metropolitan Council should assess the positive and negative attributes of the options presented and determine the optimal placement of MetroGIS and its relationship and reportability to the Council.**

The data collected in this review clearly indicate that the Council benefits from the datasets available through MetroGIS. However, there are many options for proceeding forward with the effort. At a minimum, the data needs to be maintained for users, including the Council. At maximum, additional data components and functionality may be added, if desired and feasible.

The options presented here represent the range of choices available to the Council for MetroGIS. It is the purview of the Community Development Division and the Council to determine the most optimal arrangement.

Management Response

Agree. Executive management and the Council can and should examine the options as available sources for the data the Council needs to fulfill its mission. A possible approach is designation of a working group of Council members (drawn, say, from the Community Development Committee) who can examine the options as well as the financial and policy considerations, and can make recommendations to the Council. A list of key questions and policy issues has been developed to assist with that. Accountability and governance are fundamental topics that need thorough review. Consideration should be given to the feasibility of adapting other Council advisory group models (e.g. Parks and Open Space Commission, Transportation Advisory Board, Land Use Advisory Committee).

- 2. Financial accountability measures for MetroGIS should be established and practiced.**

Currently, the expenses of MetroGIS are intermixed with those of the GIS Department, making it difficult to analyze the costs and benefits of MetroGIS in isolation. To facilitate financial and programmatic accountability for MetroGIS, it is important to segregate and track financial information for MetroGIS. The accounting codes were originally developed to support the separation, but then staff combined the accounts. The accounts should be separated again for tracking and ongoing evaluation.

Management Response

Agree. The Community Development Division Director has discussed this with the Finance Department personnel and coding will be reinstated in 2005.

- 3. The Council should continue to evaluate the role, products and cost-effectiveness of MetroGIS on an ongoing basis.**

If the Council continues its direct relationship to MetroGIS, it is important to evaluate the program's performance and achievements as one of a number of priorities for the Metropolitan Council. To that end, it will be key to continue to collect and review performance data on MetroGIS to ensure that goals are being met and value is achieved.

- The user survey worked well and could be easily repeated on an annual or biennial basis.
- Staying in touch with stakeholders through the Board and its committees will also help to identify the needs and levels of satisfaction of system users outside the Council.
- To attempt to identify data "needs" as opposed to data "wants," more detailed input should be collected from MetroGIS users (perhaps through a survey on the website) to determine what data is needed for what functions. This will better allow MetroGIS to focus its efforts on the needs of its users and maximize the cost-effectiveness of the program.

Management Response

Agree. Measurable performance standards will be developed so that all parties have a practicable means of defining expectations and the criteria by which programs and activities are analyzed and evaluated. The Council's dual role as primary sponsor as well as a significant stakeholder particularly needs to be examined in light of the MetroGIS accomplishments and experience since its founding.

4. A clear delineation of roles and responsibilities between the Council, the MetroGIS Policy Board, Liaison, and Coordinating Committee should be developed to support communication and coordination and ensure that all parties have a clear idea of their role in the MetroGIS program.

The current role and reportability of MetroGIS is not entirely clear to all involved. Many in Community Development view the Policy Board as advisory to the Council and feel that the Council, as the primary funder, is already in control of the MetroGIS program. However, the mission and operating guideline of the group imply that the Policy Board is in charge of programmatic decisions and is only subservient to the Council on budgetary matters.

Moving forward, it will be critical that whatever decision is made by the Council is clearly communicated to MetroGIS stakeholders. It would also be advisable for the Council to have conversations with the Policy Board about roles and responsibilities and to document the common understandings that flow from those discussions to ensure that all of the stakeholders involved have a clear and common understanding of the mission of MetroGIS and its relationships to the Council, as well as other governmental units and stakeholders.

Management Response

Agree. This is a key item. The working group format successfully used by the Community Development Committee in other matters, would provide a forum for discussions. The list of key questions and policy issues can also be used as a guide. Examinations of the Council's dual role, as noted in Item number 3, will help define other relationships, e.g. those among the staff liaison, the Coordinating Committee and the Policy Board. The fundamental value is ongoing effective communication. Perceptions about and relationships with the Council that prevailed when MetroGIS was founded need to be checked to ensure that they are timely and accurate.

Appendix A

DATA TYPE	MN STATUTE
SHARED DATA	
Administrative and Political	
Cities and Townships	473.145-473.146, 473.1465, 473.147, 473.149, 473.155-473.1551, 473.167, 473.173, 473.191, 473.195, 473.197, 473.206, 473.208, 473.23 473.241, 473.242, 473.244, 473.249, 473.25, 473.252, 473.255, 473.313, 473.315, 473.326, 473.333-473.351, 473.371-473.388, 473.399-473.3994, 473.405, 473.504, 473.505, 473.511, 473.5111, 473.515
Parcels and Property	
County Parcels	473.145-473.146, 473.1465, 473.14, 473.149, 473.155-473.1551, 473.156, 473.167, 473.173, 473.191, 473.195, 473.197, 473.23, 473.241, 473.242, 473.244, 473.249, 473.275, 473.252, 473.255, 473.313, 473.315, 473.326, 473.333-473.351, 473.371-473.388, 473.399-473.3994, 473.405, 473.411, 473.504, 473.505, 473.511, 473.5111, 473.515
Natural Resources-Hydrogrpahy	
Natural Wetlands Inventory	473.145-473.146, 473.147, 473.149, 473.156, 473.173, 473.191, 473.241, 473.242, 473.244, 473.313, 473.326, 473.411, 473.504, 473.505
Natural Resources- Other	
Land Cover	473.145-473.146, 473.147, 473.149, 473.155-473.1551, 473.173, 473.191, 473.241, 473.242, 473.244, 473.252,473.313, 473.399-473.3994, 473.405, 473.411, 473.504
Transportation- Other	
Railroads Transportation Analysis Zones(TAZ)	473.145-473.146, 473.1465, 473.155-473.1551, 473.167, 473.173, 473.191, 473.241, 473.242, 473.244, 473.25, 473.255, 473.371-473.388. 473.391, 473.399-473.3994, 473.405, 473.411, 473.505
BLENDED DATA	
Administrative and Political	
Metropolitan Council Districts Legislative Districts Zip Code Boundaries	473.145-473.146, 473.241, 473.242, 473.244, 473.303, 473.399-473.3994, 473.405
Land Use and Planning	
Generalized Land Use MUSA Comprehensive Plan Composite	473.145-473.146, 473.1465, 473.147, 473.149 473.155-473.1551, 473.156, 473.167, 473.173, 473.191, 473.195, 473.197, 473.241, 473.242,

2030 Regional Development Framework	473.244, 473.25, 473.252, 473.255, 473.313, 473.371-473.375, 473.3875, 473.399-473.3994, 473.405, 473.411, 473.504, 473.505, 473.511, 473.5111
Demographics	
Census Geography	473.145-473.146, 473.1465, 473.147, 473.149, 473.155-473.1551, 473.156, 473.173, 473.191, 473.195, 473.197, 473.241, 473.242, 473.244, 473.25, 473.255, 473.371-473.3875, 473.399-473.3994, 473.405, 473.504, 473.505
Parks and Recreation	
Regional Recreation Open Space Features	473.145-473.146, 473.147, 473.173, 473.191, 473.241, 473.242, 473. 244, 473.25, 473.313, 473.326, 473.333-473.351
Utilities	
Wastewater Treatment Plants	473.145-473.146, 473.147, 473.149, 473.156, 473.173, 473.191, 473.241, 473.242, 473.244, 473.25, 473.504, 473.505, 473. 511, 473.5111, 473.515
Natural Resources -Hydrography	
Water Features	473.145-473.146, 473.147, 473.156, 473.173, 473.191, 473.241, 473.242, 473.244, 473.25, 473.252, 473.504, 473.505, 473. 511, 473.5111
Natural Resources- Geology and Soils	
Digital Soil Survey Elevation Contours	473.145-473.146, 473.147, 473.149, 473.155-473.1551, 473.156, 473.173, 473.191, 473.241, 473.242, 473.244, 473.252, 473.411, 473.505
Transportation- Roads	
Major Highways Functional Class Roads	473.145-473.146, 473.1465, 473.147, 473.155-473.1551, 473.167, 473.173, 473.191, 473.195, 473.197, 473.241, 473.242, 473.244, 473.25, 473.255, 473.371-473.384, 473.3875, 473.391, 473. 399-473.3994, 473.405, 473.411, 473.504, 473. 505
Transportation- Transit	
Hiawatha Corridor Light Rail Alignment	473.145-473.146, 473.155-473.1551, 473.1465, 473.173, 473.191, 473.241,473.242, 473.244, 473.25, 473.255, 473.371-473.384
Transportation- Airports	
Airports in the Regional System	473.145-473.146, 473.1465, 473.147, 473.155-473.1551, 473.173, 473.191, 473.241,473.242, 473.244