

MetroGIS Business Plan



April 19, 2000

**Prepared on behalf of MetroGIS by *Richardson, Richter & Associates, Inc.*
and *Virchow, Krause and Company, LLP* in conjunction with MetroGIS Staff**

**MetroGIS Business Plan
Policy Board Action
April 26, 2000**

Members Present: Willis Branning (Dakota County), Conrad Fiskness (Metro Watershed Districts), Dennis Hegberg (Washington County), Alternate Lee Whitcraft for Antoinette Johns (TIES), Edwin Mackie (Scott County), Alternate Patrick O'Connor for Randy Johnson (Hennepin County), Jim Kordiak (Anoka County), Victoria Reinhardt (Ramsey County), Terry Schneider (AMM), John Siegfried (Carver County), and Roger Williams (Metropolitan Council).

Members Absent: Barbara Johnson (AMM)

The MetroGIS Policy Board unanimously accepted the Business Plan for MetroGIS, dated April 19, 2000, and unanimously authorized the following actions as recommended by the MetroGIS Coordinating Committee:

- 1) Authorize the next steps presented in the Business Plan and generalized as follows:
 - a) Accept the Metropolitan Council management's proposal (to be confirmed with the Council) to continue to fund MetroGIS' coordination functions.
 - Postpone further consideration of a subscription fee program for the public sector
 - Initiate discussions between the Metropolitan Council and the counties concerning continuation of the practice of funding a supplemental data maintenance payment to the counties
 - Expand functions to support centralized internet-based distribution of regional data
 - b) Request each county to immediately authorize distribution of the regional parcel dataset to the public and private sectors for the pilot project.
 - Agree on a licensing agreement for distribution of the regional parcel data set
 - Commence pilot project with MetroGIS distributing regional parcel data sets
 - Obtain feedback from data recipients
 - Assess MetroGIS' involvement and any budget or function modifications
 - c) Request each of the counties, the Metropolitan Council, and others as appropriate to enter into a common data sharing agreement through December 31, 2003 (the Business Plan's term)
 - d) Advocate within and among the respective organizations to facilitate and encourage organizational policy and actions consistent with MetroGIS' objectives.
 - MetroGIS will continue to be stakeholder-governed
 - Stakeholders will continue to participate in the affairs of MetroGIS
 - MetroGIS will register its name with State and federal authorities
 - MetroGIS will use outreach and educational opportunities to inform potential users of MetroGIS
- 2) Form a subcommittee made up of Private Industry, Counties, and Metropolitan Council to work directly with the MetroGIS Coordinating Committee and Policy Board to determine costs and legal structure that will meet the needs of the Private Sector.
 - a) The Policy Board Chair and Vice-Chair of the Policy Board will oversee the development of the subcommittee
 - b) The subcommittee will be co-chaired by a member of the Policy Board and a member from the private sector, the latter as determined by the subcommittee.
 - c) The subcommittee will submit a report on recommendation at the next MetroGIS Policy Board meeting (July 19, 2000) for its consideration.

A complete summary of the Board's discussion related to this item is available at www.metrogis.org – organization – committees – Policy Board – meeting minutes - 2000 – April 26.

[Inside Cover]

ACKNOWLEDGEMENTS

MetroGIS Policy Board:

Commissioner Victoria Reinhardt, Chair, Ramsey County
Commissioner John Siegfried, Vice Chair, Carver County
Commissioner Jim Kordiak, Anoka County
Commissioner Willis Branning, Dakota County
Commissioner Randy Johnson, Hennepin County
Commissioner Edwin Mackie, Scott County
Commissioner Dennis Hegberg, Washington County
Terry Schneider, City of Minnetonka and Association of Metropolitan Municipalities (AMM)
Barbara Johnson, City of Minneapolis and Association of Metropolitan Municipalities (AMM)
Conrad Fiskness, Metro Chapter of MN Association of Watershed Districts (MAWD)
Antoinette (Toni) Johns, Technology Education Information Services (TIES)
Roger Williams, Metropolitan Council

MetroGIS Staff:

Randall Johnson
Theresa Foster
Melissa Walker

MetroGIS Policy Advisory Team:

David Arbeit (LMIC)
David Claypool (Ramsey County)
Eli Cooper (Metropolitan Council)
Virginia Erdahl (Washington County)
Brad Henry (AMM-Minneapolis)
Richard Johnson (Metropolitan Council)
Jerome Johnson (Anoka County)
Partick O'Connor (Hennepin County)
Dennis Welsch (AMM-Roseville)

Other Participants in MetroGIS Business Planning Process:

Gary Caswell (Hennepin County)
Larry Charboneau (The Lawrence Group)
John Connolly (Capitol Region Watershed)
Will Craig (U of M, CURA)
David Drealan (Carver County)
Rick Gelbmann (Metropolitan Council)
Jim Hentges (Scott County)
Steve Lehr (CB Richard Ellis)
Ed Shukle (Anoka County)
Gary Stevenson (Dakota County)
Jeff Ulland (CB Richard Ellis)

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Executive Summary

MetroGIS is presently organized under a (voluntary) policy board, and has two advisory teams and a coordination committee. The MetroGIS Policy Board establishes overall policies to guide the development of a regional approach to providing Geographic Information Systems (GIS) services. The Metropolitan Council has been funding this program since 1995 to encourage collaboration and cooperation among the key GIS players in the region.

A MetroGIS Benefits Study¹, was conducted in 1999 to assess the benefit of regional collaboration on GIS, and study results showed that key stakeholders perceive significant benefit from collaboration on GIS within the metro region. In addition, a model for assessing “subscription fees” from public sector stakeholders was developed in 1999. While this model served as the basis for a discussion of fees or cost sharing among public sector entities participating in collaboration, the concept of subscription fees has not been fully endorsed by the various stakeholder groups. The business planning process identified the need for further work in terms of market assessment and customer education to determine the feasibility and prudence of charging fees to public sector stakeholders. In addition, the concept of charging private sector fees for access to regional data was analyzed and it was determined that further review be conducted to ensure that legal, policy, and practical issues have been fully addressed before such fees are put in place.

Regardless of the method for funding MetroGIS, the benefits of the MetroGIS effort have been supported by stakeholders and the Council, and the importance of continuing efforts at collaboration was confirmed, both through the Benefits Study, and through discussions that took place through the business planning process.

The business plan considered many factors, including possible organizational structures, MetroGIS’ relationship with the Metropolitan Council and various stakeholders, resources required including staffing and other expenses, fees, and other factors as needed to prepare a comprehensive blueprint for action.

As a result of the planning process, recommendations were developed that reflect direction from the MetroGIS Policy Board, input from the MetroGIS Policy Advisory Team and Metropolitan Council management, oversight by the MetroGIS Policy Coordinator, and contributions from the consultant team. The business plan recommends that:

1. The Council continues to fund the coordination functions for MetroGIS (\$440,000 in 2001, \$405,000 in 2002 and \$415,000 in 2003).
2. The current \$75,000 data maintenance payment to the counties ceases after 2001.

¹¹ Dr. William J. Craig, Associate Director of the Center for Urban and Regional Affairs (CURA) at the University of Minnesota, received a 1999 NSDI Benefits Grant to conduct a study entitled “MetroGIS Benefits Study”.

Rather, MetroGIS would use the budgeted \$75,000 for outsourcing technical and administrative services to support the distribution of regional parcel datasets and distribution and enhancement of data for other collaborative efforts.

3. MetroGIS functions expand to include support of a centralized Internet-based distribution of regional and county geospatial data, as requested by the counties, which relate to MetroGIS' priority information needs.
4. MetroGIS postpone further consideration of the concept of a subscription fee program until the regional datasets required to address each of the priority information needs have been available for use and evaluation by the MetroGIS community for not less than six months.
5. The Council continues to seek out partnerships, as opportunities present themselves, to finance MetroGIS' coordination expenses.
6. The counties, and others as appropriate, authorize designated regional custodian organizations to distribute to government organizations all regional data solutions that are aggregates of designated primary data sources.
7. MetroGIS distribute to non-government a regional parcel dataset as part of a pilot project and evaluate further work with non-government on the basis of the pilot project results. The pilot project should include the following activities:
 - a) Amend GIS Data and Cost Sharing Agreements between the Metropolitan Council and each of the seven counties or in some other acceptable manner authorize the Council to distribute the regional parcel dataset developed as a pilot fall 1999.
 - b) Prepare a GIS data licensing agreement acceptable to affected parties for distribution of the regional parcel dataset at no cost during the pilot project.
 - c) Identify target audiences and solicit participation in the pilot. Develop a communication strategy to describe benefits and demonstrate opportunities to potential participants. (Use materials developed through the pilot project to continue to communicate with public and private sector entities).
 - d) Obtain feedback from the recipients of the pilot regional parcel dataset concerning the usefulness of the data to their organizations, problems encountered to obtain and use the data, and any enhancements needed. This feedback will assist MetroGIS in better defining its products.
8. Based on the pilot project results, determine what, if any, changes need to be made to MetroGIS and its functions. An issue of particular concern is whether MetroGIS should increase its involvement with the private sector. In addition, a determination of the minimal level of structure and budget required to allow MetroGIS the ability to distribute data and achieve other objectives would be made.
9. The counties enter into a common data sharing agreement and related licensing with the Council and others, as deemed appropriate, effective through 2003, which continue the

data sharing terms of the current agreements but without payment of additional project funds.

10. The MetroGIS Policy Board continues to be stakeholder governed, as it is currently, and has been since its inception. Member organizations commit to continued active participation of their elected officials and senior management on the Policy Board, Coordinating Committee, and Advisory Teams.
11. Local government, as well as all other stakeholders, actively participate in data production, in reviewing MetroGIS products to assure accuracy for users and in attending MetroGIS committees as the opportunity arises.
12. Appropriate representatives of member organizations continue to actively participate in the affairs of MetroGIS, including promotion and active participation of GIS users groups within each county.
13. All member organizations continue to pursue the previously endorsed work plans for enhancement of MetroGIS' Data Finder tool and conceptual design for remaining priority information needs.
14. MetroGIS utilizes all available outreach opportunities to educate potential GIS users about MetroGIS.
15. Register the "MetroGIS" name with State and federal authorities.

To accomplish these recommendations, the following work program is recommended for 2000 and 2001:

- Secure support commitment from Metropolitan Council.
- In the later part of 2001, execute data sharing agreements with counties, Metropolitan Council, others as appropriate, effective January 1, 2002 through 2003.
- Document any problems that arise associated with informal organizational structure that affect ability to achieve priority functions.
- Implement physical regional data solutions to the following priority business information needs: parcels, future land use, existing land use, school district jurisdictional boundaries, and census geography.
- Complete conceptual regional solutions to the following priority business information needs: watershed district jurisdictional boundaries, lakes/wetlands, rights to property, where people live, land regulations, highway/road networks, socio-economic characteristics of areas.
- Complete Regional Parcel Dataset Pilot Project – evaluate desired enhancements to the regional data content, method of distribution, prototype multi-party distribution authorization and licensing, and address intellectual property rights issues concerning distribution to the private sector of data, which qualifies for "cost recovery".
- Test centralized distribution of county parcel data.
- Investigate benefits of registering "MetroGIS" name with state and federal government
- Implement an outreach strategy to inform MetroGIS community of MetroGIS' objectives, projects where partnering is necessary to succeed, and opportunities to participate.

1.0 Introduction and Background

1.1 What is GIS?

A Geographic Information System (GIS) is a computerized database management system for the capture, storage, retrieval, analysis, and display of spatial data or data defined by location. The types of information involved may include census data, natural resources, transportation data, land use, housing data, and other data sets that are relevant to the business needs of the organization. Once this information is gathered, it can be analyzed and displayed in any number of configurations to allow the user to better discern underlying patterns.

1.2 How is GIS Important to the Region?

A regional approach to GIS allows for making standardized, high quality data available for large areas, thereby reducing costs by reducing redundancy in the development of geographic data sets, and improving service and decision making by the widespread use of these data. Further, the sharing of data enables individual government entities to identify trends within the region, recognize where the needs are, and determine where needs and problems cross-jurisdictional boundaries, thus calling for regional solutions. A regional approach to GIS allows governments to coordinate land uses across county lines to avoid conflict, to maximize development opportunities, and to bridge the gaps between regional policies and local circumstances.

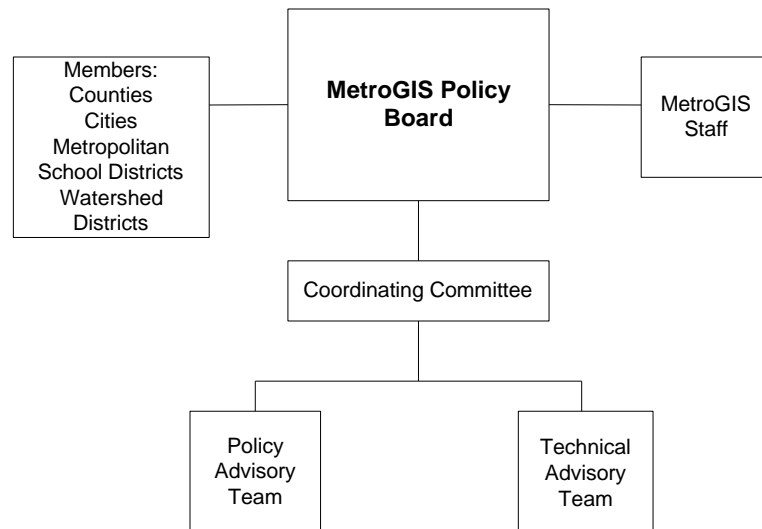
1.3 MetroGIS

1.3.1 What is It?

MetroGIS is a Geographic Information Systems project that helps local governments and other organizations share data in the seven-county Twin Cities area. It facilitates data sharing policy, and development, maintenance, and distribution of regional data sets. These data may include property records, natural resources, public works, demographics, education, and other information. The MetroGIS concept was initiated in 1995 by the Metropolitan Council, and first introduced through a Minnesota GIS/LIS State Conference and two informational forums held to gauge public support for regional collaboration on GIS. Since that time, at least 150 people, representing a wide variety of agencies and organizations, have been involved in building MetroGIS.

MetroGIS is presently organized under a policy board, and has two advisory teams and a coordination committee. The MetroGIS Policy Board establishes overall policies to guide the development of a regional approach to providing GIS services. The two advisory teams, the Policy Advisory Team and the Technical

Advisory Team, are composed of experts in the following areas: policy, data content, data standards, and data access. The Coordinating Committee oversees MetroGIS design, implementation, and operations, defines goals and issues for



each of the advisory teams, and supports the MetroGIS Policy Board.

Many governmental organizations including counties; cities; metropolitan, state, and, federal agencies; school districts; and watershed districts have been involved in MetroGIS. Non-profit groups, private organizations, and utilities also participate in MetroGIS work. MetroGIS has enjoyed the support and active participation of the seven metropolitan counties, the Association of Metropolitan Municipalities (AMM), the Metropolitan Chapter of the Minnesota Association of Watershed Districts (MAWD), Technology Information Educational Services (TIES), and the Metropolitan Council.

1.3.2 Vision and Mission Statement

The MetroGIS vision emerged out of a 1995 strategic planning retreat that convened a representative cross-section of GIS practitioners within the metropolitan region. MetroGIS' mission, as endorsed by the organizations represented on the MetroGIS Policy Board in the fall of 1996, is:

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

1.3.3 Services and Products Today

1.3.3.1 Coordination and Technical Services

The following list of services describes the variety of coordination and technical services currently provided through MetroGIS:

- Facilitation of voluntary compliance with guidelines and standards necessary to achieve and sustain widespread data sharing.
- Coordination of the development of data standards to share geographically referenced graphic and associated attribute data.
- Definition of roles and responsibilities of primary/regional custodians to share geographically referenced graphic and associated attribute data.
- Provision of a technical data process to share geographically referenced graphic and associated attribute data.
- Provision of peer reviews of data sets that meet the business needs of stakeholders.
- Promotion of a consensus-building process to share geographically referenced graphic and associated attribute data.

1.3.3.2 Data Finder (www.datafinder.org)

The MetroGIS Data Finder project demonstrates a stated goal of MetroGIS -- to provide a mechanism for sharing GIS data. It also addresses the priority of the MetroGIS Technical Advisory Team -- identify the mechanisms for indexing, describing, and accessing current, accurate, secure and usable geographically referenced graphic and associated attribute data. A MetroGIS internet-based index of geographically referenced data:

- Promotes sharing of geographic data between other metropolitan area governmental entities and with the Metropolitan Council.
- Provides on-line access to descriptions of geographic data available in the metropolitan area.
- Provides information about MetroGIS geographic data.
- Provides access to MetroGIS geographic data.
- Promotes the ability to develop interactive mapping applications or map views that promote policy discussions.

In addition to continuing to encourage MetroGIS stakeholders to develop and post metadata with Data Finder, the next phase of the Data Finder project will involve expanding its functionality. (Spring 2000)

1.3.3.3 Regional Dataset Products

In May 1997, the Policy Board endorsed thirteen priority business information needs for the MetroGIS community (Appendix G). Since that time, MetroGIS has played a key role in the conceptual design and facilitating physical development of the following regional datasets to address acknowledged priority information needs.:

- MCD / County Jurisdictional Boundaries Data Set
- TLG Street Centerline Data Set
- Census Boundaries Data Set (Spring 2000)

No licensing or fees are required for access to the Jurisdictional Boundary or census geography datasets. No fee is required for the public sector but a license is required for access to the privately owned TLG Street Centerline dataset. Work is in process or pending in 2001 for datasets to address each of the other identified priority Business Information Needs.

MetroGIS' Business Information Needs process was also recently re-examined to assure consistency with the Board's October 27, 1999 direction for MetroGIS to focus its efforts on coordination, data standards and custodian responsibilities, and not data development.

1.3.4 How is MetroGIS Funded?

In 1994, the Metropolitan Council concluded it needed a parcel-based GIS to support its mission. It also decided that a collaborative approach with its local government partners was the most prudent course of action for achieving this goal. Championing a regional GIS collaborative was consistent with its overarching corporate goals to foster collaborative solutions to needs in common with its local government partners and with its desire to be recognized as an effective leader in the region.

The Metropolitan Council accepted a leadership role to create a metro-wide GIS; an entity through which widespread sharing and exchange of GIS data sets and technology could become a reality among public agencies and private-sector organizations within the seven-county metropolitan area. Leadership is defined as the following activities:

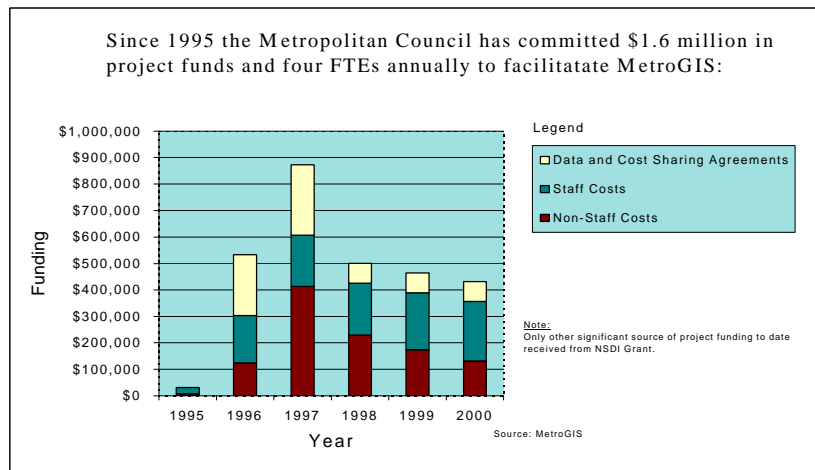
- Finance, coordinate, and support the strategic planning and decision making processes
- Develop and maintain regional data sets (e.g., land use, census geography / TAZ, road centerline and census address range, soils, imagery, administrative boundaries)
- Provide support (staff and/or equipment) to the Coordinating Committee and to the strategic issues 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 all affected parties.

In October of 1995, the Metropolitan Council and the Minnesota Land Management Information Center (LMIC) co-sponsored two informational forums to assess support for pursuing a regional GIS and for the Council to facilitate the effort. Over 150 people attended these forums, and showed strong support for both concepts. In 1995, recognizing that a regional GIS could simultaneously address two of its high-priority corporate goals, the Council approved a statement of its role in facilitating the creation of a regional GIS. Subsequently, the Council authorized additional staff for the project, funding for data and cost sharing agreements with each of the seven counties, funding for outreach activities, general program administration, team support, pilot projects, and strategic initiatives to acquire institutional and technical knowledge needed to implement a regional data sharing mechanism

Through the end of 2000, the Metropolitan Council had invested in excess of \$2.8 million in project funding, as shown in Figure 1.

Figure 1: Metropolitan Council Contributions to MetroGIS



1.4 Business Planning Process

1.4.1 Planning Time Frame

The business plan covers the period from 2000 to 2003, a four-year span. While the 2000 budget is already in place and program activities are underway, including this year in the plan provides a baseline against which future projections can be compared.

Need for a Business Plan

As a result of the Fair Share Financial Model and Benefits Studies conducted in 1999², the MetroGIS Policy Board determined, on October 27, 1999, the need for a business planning process to guide MetroGIS as it makes a transition to an implementation phase. The business planning process provided a forum for policy discussions on strategies for developing and distributing regional datasets to both the public and private sectors, continuing a coordination role while seeking other funding to meet data development needs, examining staffing requirements, evaluating a new legal organizational structure and developing budgets and stable financing mechanisms to support the mission and vision of MetroGIS as it continues to coordinate regional GIS functions.

1.4.2 Key Planning Activities

The business planning process included a review of existing operations and budgets, further development of concepts presented through the Fair Share Financial Model study, and work with the Policy Advisory Team, the Coordinating Committee and policy direction from the Policy Board. In addition, other interested parties, including private sector representatives were asked to provide input on key policy issues and proposed business strategies.

A planning workshop was held on January 26, 2000 with the Policy Board to consider key assumptions upon which business plan projections would be based and to provide direction on the design for MetroGIS in 2000 and beyond.

The MetroGIS Board provided direction that the business plan should develop a long-term funding proposal that:

- 1) Maintains the current stakeholder-governed structure through the Policy Board;
- 2) Minimizes the budget to achieve coordination functions;
- 3) Minimizes dependence on a subscription fee; and
- 4) Provides a sustainable means to achieve the MetroGIS vision.

In February 2000, a meeting with the county representatives on MetroGIS committees was held to advise MetroGIS on methods of sharing with MetroGIS and others county parcel data sets.

2.0 Present Situation

2.1 Issues Facing the Region, and Their Impact on MetroGIS

2.1.1 Data Practices Legislative Developments

From October 1997 to January 1999, a legislatively created Information Task Force met to consider a variety of issues associated with data privacy and data practices. The Task Force made its report to the Legislature in January 1999. The report contained 23 recommendations, most of which involve changes to a number of laws and, particularly, changes to the Data Practices Act, Chapter 13 of Minnesota Statutes. Two bills containing Task Force recommendations carried over to the 2000 session. Senate File 2237 authored by Senator Betzold, and House File 2481 authored by Representative Carruthers, contain the recommendations. These bills included: limiting government agencies to only recovering the marginal costs of providing copies of data to the public; requiring government agencies to get legislative approval before copyrighting most types of government data; requiring agencies to designate a data practices compliance officer; and establishing an alternative dispute resolution and contested case methodology and remedy for resolving disputes between citizens and government agencies that arise under the Data Practices Act.

The Senate Data Private and Information Subcommittee acted on Senate File 2237 in mid-February, 2000 and stripped the bill of the language that would have limited government agencies to only recovering marginal costs for providing data. Data privacy issues remain and are making newspaper headlines during the 2000 Legislative Session. Privacy concerns continue to be in the forefront of policy makers' concerns and have potential to impact future distribution of data.

The federal government has also been developing legislation for data management. HR 354 was discharged from the Committee on Commerce October 8, 1999 and placed on the Union Calendar. Representative Vento's office indicates that this means it could be heard at anytime within the next year. No further information is available at this time.

2.1.2 Current County Fees for Parcel Data Information

Parcel boundary data are among the priority information needs endorsed by the Board for MetroGIS. In October 1999, the Board endorsed a policy that acknowledges that counties are best suited for the role of "primary producer" of parcel boundary data for the MetroGIS community.

The Counties over the years have each established their own pricing for the sale of parcel boundary data and attribute data in electronic form. Portions of the data

²² The final report for the Fair Share Financial Model is available on the MetroGIS Internet site at: www.metrogis.org.

sought may reside in more than one location, e.g., the surveyor's and the auditor's office, and each department sets its own fees.

GIS Data and Sharing Agreements executed between the Council and each of the seven counties provide free access via telecommunications for government and limit to a modest cost of reproduction access by government via non-telecommunication means. Four of these agreements will expire December 31, 2001. Extensions to December 31, 2001 will be sought this year for two others. The seventh agreement will expire in 2003.

The current fees for non-government access to an entire parcel boundary dataset with attributes, as determined by each county, are shown in Table 1:

Table 1: Current County Fees for Parcel Boundary Data Sets

County	# of Parcels	Cost for Parcel Boundary Data Set with PIN	Cost for Attribute Information	Total Cost of Parcel Boundary Data Set and Attribute Information
Hennepin	379,292	\$37,929	\$13,500	\$51,429
Ramsey	160,000	\$364/MB	\$.01/parcel	\$120,000
Carver	28,368	\$450/MB	\$.10/parcel	\$13,650
Anoka	111,000	\$400/MB	Included	\$60,000
Scott	50,000	\$15,000	Included	\$15,000
Dakota	131,000	\$75,000	\$900.00	\$75,900
Washington	85,518	\$.80/parcel	\$.08/parcel	\$68,414
Totals	945,178			\$404,393

- Totals for Carver County do not include 4 Townships (Finish Fall 2000)
- Washington County data sold to government agencies within the county at half price.
- Hennepin County includes 6 attributes as standard information for distribution with their parcel boundary data set (PID, House Number, Fractional House Number, Street Name, Condo Unit, Zip Code); all other attribute data available in Hennepin County Assessor database.

Most purchases of the entire Dakota County are discounted 50 %, such as purchases by utility companies. Dakota County does not sell combined data to the private sector.

According to county staff, purchases are most frequently for portions of the counties' parcel data, not the entire data set. To accommodate this, some counties have charging mechanisms that allow for smaller charges in proportion to the amount of data being requested. It should be noted that the counties have indicated that they are considering modifying their fees.

2.1.3 Other GIS Service Providers

As part of the business planning process, current activities of other GIS service providers were examined. The objective of this task was to determine if duplication of services with regard to MetroGIS and other service providers exists. Based on this review it was determined that, although there may be some minimal overlap in functions, each entity appears to serve the specific needs of its primary beneficiaries. Consensus was reached within the Policy Advisory Team that proposed MetroGIS functions do not duplicate services from other providers. (Appendix A shows the analysis of GIS functions as provided by various entities.)

3.0 Description of MetroGIS Services/Functions

3.1 Prioritization of Functions

In September 1998, the MetroGIS Policy Board endorsed 22 functions for MetroGIS as a basis for the Fair Share Financial Model Study. Based upon the 1999 MetroGIS Benefits Study, the Policy Advisory Team agreed on a preliminary ranking of the 22 business functions of MetroGIS. These functions and their priorities are critical to the development of the budget and work plans for MetroGIS proposed staff. The functions were grouped using the following rules:

Table 2: Category Functions

Function Category	Importance / Investment Ranking	Decision Rules
Mission Critical (core)	High/High	MetroGIS' mission cannot be achieved without supporting these functions, strong support for investment and high importance to stakeholder operations. These functions drive the MetroGIS program.
Funded Support	Med/High	Important but not critical functions to achieving the MetroGIS mission. MetroGIS should take responsibility to invest resources and make sure these functions are supported.
Partnered Support	High/Med	High importance to achieving the MetroGIS mission but require partnering to achieve. MetroGIS should take the lead in facilitating the required partnerships but not necessarily fund the projects.
Selectively Desirable	Med/Med	Decisions on a case-by-case basis as to timing and level of support for these middle priority but important functions. Interdependencies, which support and/or are necessary to achieve Mission Critical functions, a key to pursuing. These functions should be targeted in the marketing plan to improve support and to better understand concerns.
Low Priority	Low/Low	Postpone funding consideration until all other functions are achieved, possibly reconsider appropriateness for MetroGIS to support.

Using these rules, the functions were prioritized as follows:

Mission Critical: MetroGIS' mission cannot be achieved without supporting these functions.

- Promote and endorse voluntary policies, which foster coordination of GIS among the region's organizations.
- Facilitate data sharing agreements and licensing among MetroGIS stakeholders.
- Provide a directory of regional data within region and a mechanism for search and retrieval of GIS data (i.e. maintain and enhance Data Finder). The goal is to provide a single point with information on how search for sources of data.
- Identify unmet GIS needs with regional significance and act on these needs.
- Develop and endorse standards for GIS data content, data documentation, and data management for regional data sets.

Funded Support: Important but not critical. MetroGIS should take responsibility to invest resources and make sure these functions are supported.

- Maintain MetroGIS World Wide Web site (www.metrogis.org).
- Promote collaborative funding of pilot projects that meet regional needs.
- Promote filling gaps in metadata based on identified regionally significant data priorities.
- Maintain liaison relationships with committees/ organizations with similar objectives to MetroGIS (i.e., Gov. Council on GI, NACO, GIS/LIS, NSDI/FGDC).
- Promote forums for MetroGIS stakeholders to discuss common GIS needs and opportunities.
- Advocate for MetroGIS needs and desires with state and federal policy makers

Partnered Support: High importance to achieving the MetroGIS mission but require partnering to achieve.

- Create and maintain datasets for MetroGIS based on identified priorities (i.e., to address the 13 priority information needs endorsed by the Policy Board as having regional significance).
- Help promote development and exchange of GIS applications and procedures that serve GIS needs.

Selectively Desirable: Decisions on a case-by-case basis.

- Develop master contracts for regional GIS projects, when appropriate.
- Endorse standards for telecommunication protocol and networks. (AKA: Create guidelines for getting electronic access to the information that is being shared)
- Provide technical assistance to participants to retrieve, translate, and use data developed and maintained on behalf of MetroGIS.
- Conduct research to meet common regional GIS needs (i.e., data policy, distribution, etc).
- Publish MetroGIS newsletter.

Low Priority: Postpone funding.

- Identify GIS training and continuing education needs and encourage participation.
- Market MetroGIS data and products
- Provide a repository of GIS human resources information (centralized job posting/position descriptions).

Based upon Policy Advisory Team direction, the business plan budget projections assume that only functions ranked as at least medium/medium will be funded at this time by MetroGIS. Functions that fall into the low priority category, and certain medium/medium priorities that do not relate to a higher priority function, such as development of master contracts and conducting research to meet common regional needs, are not proposed to be funded by MetroGIS.

It should be noted that, while some counties have expressed interest in having MetroGIS assume full responsibility for distribution of county GIS data as a way of increasing efficiencies and reducing county costs, this activity is not envisioned in the budget or as a function for MetroGIS in this business plan. If this function were to be assumed by MetroGIS, staffing and budget implications would need to be assessed. What MetroGIS has budgeted for is the distribution to government organizations of all regional data solutions that are aggregates of designated primary data sources.

3.2 Data Development Policy Revisited

Prior to October 27, 1999, physical development of data solutions for each of MetroGIS' thirteen priority business information needs³ was among the desired functions that MetroGIS anticipated raising funds to support. On October 27th, based on feedback received from the Fair Share Financial Model Information Forum held September 1999,

³ An Information Needs Forum and three Business Object Framing Modeling Sessions, held in fall 1996, were the initial events for the project. A survey followed in February 1997 to narrow the field of distinct information needs from 87 to the top 13 (Appendix F). In May 1997, the Policy Board endorsed the 13 information needs as priorities. The highest priority information needs are not only significant to the internal business operations of a variety of key MetroGIS stakeholder organizations, but are also highly dependent upon others for the data to address these information needs.

the Board decided to limit MetroGIS' data development role to developing guidelines/standards for each priority business information need, identifying primary and regional custodian roles and responsibilities, and evaluating data sets through forums when enhancements are suggested and encouraged.

MetroGIS' multi-purpose, consensus-based, broadly representative Business Information Needs Process, as refined during business planning process, is comprised of the following components:

- identify priority regional information needs common to stakeholder organizations, in particular those represented on the Policy Board
- identify data needed to answer each priority information need
- identify primary and regional data custodians and their responsibilities
- define critical standards, integration and aggregation specifications, and institutional policies necessary for MetroGIS' participants to share commonly needed priority data

Separate funding or volunteers will continue to be sought for logical and physical data set development, given the Policy Board's October 1999 decision to limit MetroGIS' data development role, as opposed to seeking funding via a subscription fee. See Appendix B for a graphic description of the Business Information Needs Process endorsed by the Coordinating Committee in December 1999 during the business planning process and Appendix C for the schedule of technical activities for addressing each of the priority information needs. MetroGIS will assist in seeking funding and volunteers.

3.3 Progress on Priority Business Information Needs

Work on the top MetroGIS information need, "location of MCD (city and township)/county jurisdictional boundaries", is complete. The Metropolitan Council has accepted responsibility to serve as the regional custodian and has developed the regional dataset. Preliminary work has been initiated on data specifications for regional school and watershed district jurisdictional boundary solutions. A partial solution has been implemented for the "addresses for people, places, and things" information need through a public-private partnership (Section 3.5). Desired regional data specifications for parcels were improved in November 1999. A pilot project to accomplish the logical and physical development of regional parcel dataset is proposed for 2000 as a recommendation of the business plan. Development of regional data specifications for a regional future land use and existing land use designations should be complete by spring 2000. MetroGIS is collaborating with the Minnesota Governor's Council on Geographic Information to develop specifications for the MetroGIS hydrographic information need. This work is expected to be substantially complete by the fall 2000. (Refer to Appendix C for further information about the schedule for completion of work identified for each of the thirteen priority information needs.)

4.0 Organizational Structure

4.1 Joint Powers Board Option

One task of the Fair Share Model Study was to consider alternative organizational models for MetroGIS. This work was in recognition that renegotiation of the existing interim agreements was imminent, and additional rights and obligations for MetroGIS had been identified through the Fair Share Model Study process, including: issues of data distribution, liabilities and indemnification, and increasing costs for producing key data bases. Subsequent to the completion of the Study, direction was received from the Policy Board that the data development functions of MetroGIS should not be pursued. This was a significant change in direction, and greatly affected the projected MetroGIS budget, the need for alternative funding, and the need for an alternative organizational structure. Prior to this direction, however, the Policy Advisory Team evaluated three legal organization structures. Their preliminary recommendation was that a joint powers board (JPB) best fit the Fair Share Model vision of MetroGIS and permitted it to remain stakeholder governed. Prior to making a final recommendation, the Team recommended that a business plan be completed, in part to further evaluate of the need for MetroGIS to have a separate identity from the Metropolitan Council.

On January 26, 2000, the MetroGIS Policy Board directed staff to begin development of a Joint Powers Board (JPB) Agreement as the governmental structure for MetroGIS contingent upon clarification of the need for such a structure. This organizational form of government was selected by the Policy Board based, in part, on their understanding that a joint powers mechanism would be needed to charge subscription fees and to effectively distribute data sets. Discussions have continued since January through the business planning process involving significant legal and policy issues and key assumptions, including whether subscription fees are feasible at all, and whether MetroGIS can distribute data sets on behalf of counties. These discussions have changed the vision for MetroGIS such that the need for an alternative organizational structure is no longer advisable at this time.

For a number of reasons, the formation of a JPB is not recommended at this time:

- ❑ It has not been shown that this structure is needed to accomplish the objectives of MetroGIS, which focus on collaboration, and not data development, as was envisioned in the Fair Share Model study;
- ❑ Without a clear need for a change in the organizational structure, it is advisable to maintain the current structure, which supports the current and proposed future functions of MetroGIS with a minimal level of governmental structure;

- ❑ It is not clear that data distribution functions will require a JPB; the proposed pilot project (Section 8.3) will illuminate this issue; and
- ❑ The Fair Share Model recommendations for a subscription fee, which would likely require a formal legal structure such as a JPB does not appear reasonable at this time due to the lack of guaranteed revenue from potential subscribers, and because the subscription fee has not been embraced by the Metropolitan Council or the stakeholders who would be charged the fee. If funding remains as it is presently, there is no need for the formation of an entity that would have the authority to charge fees from public sector subscribers
- ❑ A project is underway to define an appropriate organizational structure for the National Spatial Data Infrastructure (NSDI). MetroGIS is recognized by NSDI as a leader in efforts to evolve an appropriate governance structure for GIS collaboratives. As such, MetroGIS Policy Board member and Hennepin County Commissioner Randy Johnson and the MetroGIS Policy Coordinator are members of the drafting team for the National GeoData Alliance Organizational Initiative. This team is charged with investigating and identifying the components of a self-organizing, self-governing mechanism to effectively deploy the National Spatial Data Infrastructure. The project schedule calls for a prototype to be completed and testing/implementation to begin fall 2000. As MetroGIS is also a recognized micro-NSDI, whatever governance structure evolves for the NSDI should also be evaluated against MetroGIS' needs. Maintaining the current structure would provide the most amount of freedom to consider the mechanism that evolves from the GeoData Alliance's efforts.

In addition to these reasons, it was noted by Policy Advisory Team members at the planning workshop held in January that the need for the coordination that is so valued at this time may fade over time as technological advances are made in the areas of developing and distributing GIS data. If the level of coordination envisioned in MetroGIS planning efforts is not needed in the long-term, this would support further that a formal organizational structure might not be needed for MetroGIS to achieve its goals.

4.2 Relationship Between the Metropolitan Council and MetroGIS

As discussed in Section 6.0, the Metropolitan Council has acted as the sponsor for MetroGIS since 1995, and has provided funding for MetroGIS functions. Through the Fair Share Model Study and Benefits Study, possible changes in this relationship were explored for the purpose of determining if a more structured and independent MetroGIS could better achieve MetroGIS objectives in terms of data sharing and cost sharing. The business planning process continued this discussion, and determined that most, if not all, MetroGIS objectives can be achieved under the present relationship. In addition,

communications between the two entities should occur regularly at the policy level, including scheduled communications from the MetroGIS Board Chair to the Council. In addition, although the MetroGIS budget will remain a Council budget line item, better budget tracking mechanisms should be developed for accountability to the MetroGIS Policy Board.

4.3 Participation/Scope

All local and metropolitan governmental entities in the MetroGIS board area are current candidates for participation. The MetroGIS Policy Board has deliberated in the past whether or not voting memberships should be limited to government. It is recommended that this remain the same over the next few years but that the private sector is encouraged to continue to participate at a committee level in addition to federal and state government and institutional entities such as colleges and universities. Other governmental and institutional entities outside the metro area may be added at some time in the future. Possible interest has been expressed by “collar counties”, that is, the counties surrounding the metro area. Areas of Wisconsin adjoining the metro area, Tribal representatives, and others, may wish to participate in some manner as MetroGIS evolves. It will also be important for MetroGIS to continue to coordinate with statewide and national efforts to achieve GIS coordination on a larger scale.

4.4 Availability of Data and Licensing of Regional Datasets

The Metropolitan Council, on behalf of MetroGIS, has made available to the public various data “As Is” including MCD/County jurisdictional boundary census geography. This is available to any interested party at no cost and without a license agreement. Access to other public data requires a licensing agreement. Currently, the Metropolitan Council, on behalf of MetroGIS, has data sharing agreements with all of the Metropolitan Counties. All seven of the agreements include standardized data access provisions. In addition, three of the counties and the Council have standardized GIS license agreements.

In the event MetroGIS obtains parcel data from the counties, and in the future other data, and is given the right to distribute such data as regional data solutions that are aggregates of designated primary data sources for the recipient’s restricted, internal use only, a licensing agreement will be necessary. It would be administratively preferable to standardize a licensing agreement, which is contemplated to include an internal use restriction.

5.0 Staffing

Since its inception, MetroGIS has offered centralized support for the voluntary contributions of stakeholders. Analysis of coordination functions allowed for prioritization of functions (Section 3.0) that received support from the Policy Advisory Team. Using the functional analysis and a further detailed analysis of task descriptions to support the functions, the recommendation for staffing of MetroGIS was developed. While MetroGIS is supported through significant contributions of staff expertise from many organizations, the key coordination functions of MetroGIS require staffing with individuals that are dedicated to MetroGIS alone. The business plan recommends a minimum level of staffing, 3.25 full-time equivalent positions (FTEs), reduced from the present allocation of 4.0 FTEs, to staff a mature MetroGIS in 2002.

The business planning process built upon three sources in identifying the staffing requirements for a new MetroGIS: the Fair Share Financial Model Study, the present organizational arrangements and Policy Advisory Team input.

5.1 Fair Share Financial Model Recommendation

The Fair Share Financial Model study identified functions beyond coordination and including data development that should be included under MetroGIS, and also included proposals for staffing the new organization. This model assume the need for 6.1 to 13.8 full time equivalent positions (FTEs) including an Executive Director, as follows:

Table 3: 1999 Fair Share Financial Model Staffing Recommendation

Job Title	FTEs
Executive Director	1.0
Policy Coordinator	1.0
Technical Coordinator	1.0
Administrative Assistant	1.0
Data Development/Technical Support	2.1 - 9.8
Total	6.1 - 13.8

5.2 Current Staffing of MetroGIS

The organization presently in place has been performing functions similar to that proposed under the plan for a new MetroGIS, except in a start-up mode, and currently has 4.0 FTEs assigned to support existing functions, as shown in Table 4:

Table 4: Current Staffing of MetroGIS

Job Title	FTEs
Policy Coordinator	1.0
Technical Coordinator	1.0
Administrative Assistant	.75
Technical Support	1.25
Total	4.0

5.3 Recommended Staffing Level

After considering the proposal included in the Fair Share Financial Model study and the existing staffing levels, it was determined that:

- executive director tasks might be performed, at least on a pilot basis, by a combination of the Policy Coordinator, Technical Coordinator, and contract services;
- data development functions that were to be performed by MetroGIS could be removed from core MetroGIS functions; and
- the need for technical support from MetroGIS could be reduced based on the assumption that key technical tasks would be performed by others.

In order to minimize the need for MetroGIS staffing, certain activities were identified that may need to be provided by others outside of MetroGIS include:

- Assistance with the technical database design aspects of the business information needs process.
- Technical advice to MetroGIS to address related issues and opportunities.
- Pursuit of funding opportunities to accomplish approved, but non-funded, activities.
- Support for data development and testing of applications that improve usability and access to regionally significant data and MetroGIS-endorsed products of said data.

Given the revised analysis of functions, and assigning estimates of time required by various types of staff, the business plan includes the following recommended number and classifications of staff:

Table 5: Proposed MetroGIS Staffing

Job Title	FTEs
Policy Coordinator	1.0
Technical Coordinator	1.0
Administrative Assistant	.75
Technical Support	.5
Total	3.25

The business plan assumes that the Metropolitan Council, as the sponsor for MetroGIS, will contribute the 3.25 FTEs to support the program. The Policy Coordinator and the Technical Coordinator would be fully dedicated or assigned to MetroGIS, and the Administrative Assistant would be primarily assigned to MetroGIS. Technical support would be provided by a variety of Metropolitan Council GIS technical staff, providing up to about 940 hours of technical staff support, or .5 FTE. If greater effectiveness could be achieved through outsourcing technical support, the MetroGIS Policy Coordinator and the Technical Coordinator could propose this alternative to the Policy Board for their consideration.

The major tasks and reporting responsibilities for the staff positions identified are shown in Appendix D.

5.4 Out-sourcing

In addition to recommended full-time equivalent staff, MetroGIS is expected to rely upon contract services to supplement dedicated staff in a variety of functions. The type of contract services are expected to vary from year to year, depending upon the focus and nature of initiatives being undertaken each year. For 2002, it is estimated that contract services will be needed to reinforce dedicated staff in the following functional areas: professional and administrative support for key coordination and policy functions, including promotion and endorsement of voluntary policies, development of marketing strategies, and special studies; newsletter, brochure, annual report publication; strategic and business planning, and performance measurement.

5.5 Other Staffing Concerns

MetroGIS staff are presently employees of the Metropolitan Council, and are afforded a benefits package and pay scale according to a negotiated contract between AFSME (an employees union) and the Council. The business plan proposes that this arrangement is continued, and, that MetroGIS continue to be supported by Metropolitan Council staff assigned to MetroGIS. The primary reason for this is that the mechanics of creating MetroGIS staff, and benefits packages for a relatively small staff would require legal analysis and determinations about the actual status of MetroGIS employees regarding benefits, union representation, etc. Since little if any advantages are perceived with regard to changing Metropolitan Council staff into MetroGIS staff, this is not recommended.

6.0 Annual Expenditure Projections

The present structure for 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. Other stakeholders, such as State and federal agencies, will also provide data and staff resources. 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.

In order to estimate the funding requirement for MetroGIS through the business-planning period from 2000-2003, operating budget expenses are projected as follows:

Table 6: Projected MetroGIS Program Expenses

Breakdown by Expense Type	2000 Approved (4.0 FTEs)	2001 Projected (4.0 FTEs)	2002 Projected (3.25 FTEs)	2003 Projected (3.25 FTEs)
Salaries & Fringes	241,000	250,000	220,000	225,000
Contract Services	90,000	90,000	155,000	160,000
Non-staff Expenses	25,000	25,000	30,000	30,000
Supplemental Data Maintenance - Counties	<u>75,000</u>	<u>75,000</u>	<u>0</u>	<u>0</u>
TOTAL	431,000	440,000	405,000	415,000

The budget as of 2002 discontinues the current \$75,000 data maintenance payment to the counties after 2001. The \$75,000 supplemental data maintenance payment was offered as a part of the GIS Data and Cost Sharing Agreements to test the concept of sharing the cost of data maintenance. Since 1996 when this concept was developed, MetroGIS has adopted several guiding principles which in effect diminish the rationale for continuing this payment.

Data maintenance payments were conceived to partially compensate for anticipated requests from the user community for more current data than the county had the means to support or to add or modify data holdings not currently supported by the counties. The current situation has changed. A guiding principle has been adopted by MetroGIS such that data producing organizations will not be asked to support activities that they do not have a business need for themselves.

Another change is that more organizations are sharing data now than prior to the agreements. Therefore, the recommendation is to use the \$75,000 in 2002 and 2003 to develop a centralized distribution capability for regional datasets for the express purpose of alleviating some of the burden borne or anticipated to be borne by counties and of improving efficiency of data delivery for the user community. MetroGIS would use the budgeted \$75,000 for outsourcing technical and administrative services to support the distribution of regional parcel data sets. However, these budgetary projections do not include additional staff and other resources that may be needed to provide services to the private sector. As discussed in Section 7.3, additional staffing, up to .5 FTE, may be needed to provide licensing and distribution of parcel data sets to private sector users.

The following assumptions apply to the 2002 expense projections:

Assumptions for Salaries and Fringe Benefits

Table 7: Estimated 2002 Costs for Proposed MetroGIS Positions (3.25 FTEs)

	Budget Amount	Assumes 2002 salary of:
Policy Coordinator (1.0)	\$84,500	\$65,000
Tech Coordinator (1.0)	\$71,500	\$55,000
Admin (.75)	\$29,250	\$30,000
Tech staff (.5)	\$34,750	\$55,000
TOTAL	\$220,000	

Assumptions for Contract Services (private sector and stakeholders)

- Outsourcing of technical and administrative services to support the distribution of regional parcel datasets; (\$75,000)
- Outsourcing of professional and administrative support for key coordination and policy functions, including promotion and endorsement of voluntary policies, development of marketing strategies, special studies, etc (\$30,000 - \$50,000).
- Outsourcing of newsletter, brochure, annual report publication (\$5,000 - \$10,000).
- Outsourcing of strategic and business planning, performance measurement, etc (\$10,000 - \$15,000).

Assumptions: Non-Staff Expenses

- Meeting room rental, postage and printing, travel expenses, mileage, etc.

Assumptions: Supplemental Data Maintenance - Counties

- A supplemental data maintenance payment of \$75,000 was offered by the Council to the counties as part of the compensation package for the Interim GIS Data and Cost Sharing Agreements executed 1996 and 1997. The purpose of this payment was to defray some of the expenses that the counties were expected to incur to distribute their data holdings more widely than was the current practice and to assist with maintaining data currency. Since that time, in response to a request from county managers, facilitated as part of the business planning process, the Council has agreed to support the distribution of the regional parcel dataset and distribution of preformatted data specified by each county via the Internet. Assuming all necessary licensing agreements can be reached, a basic Internet-based service could be in place in 2001. Development of a more advanced Internet-based distribution would be pursued as funding can be secured..

6.1 On-going Contributions from the Council

Continued support from the Metropolitan Council is critical to the long-term success of MetroGIS. The following contributions will be sought from Council as the host agency for MetroGIS (these contributions equate to the Metropolitan Council's support for the core budget of \$405,000 in 2002):

1. Provide 3.25 FTE professional and administrative staff.
2. Provide support services, office space, equipment and supplies (Appendix D)
 - Provide human resources, accounting, information services, communications, and legal services as needed by MetroGIS to effectively fulfill its mission.
 - Provide the same human resources and training (non-GIS) opportunities provided to other Council staff with similar responsibilities. (*Training for GIS related topics that benefit MetroGIS stakeholders would be included in MetroGIS' budget.*)
 - Provide accounting services including budget preparation, billing and accounts receivable, fund management, and services as needed.
 - Provide information systems (IS) support for software and hardware upgrades and to resolve computer and network related problems.
 - Provide access to Communications staff to insure Council leadership is aware of important MetroGIS happenings.
 - Provide legal support pertaining to GIS data licensing, data practices, and other matters as requested, including review of the joint powers agreement, etc.
 - Provide office space for each of the staff members.
 - Provide office equipment, including computers, and support for repairs.
 - Provide standard office supplies (MetroGIS intends to pay for postage, copying expenses)
3. Executive and Management Level Support
 Provide executive and management level staff support to guide and advise MetroGIS staff on administrative and policy matters, consistent with policy direction established by a MetroGIS joint powers board. MetroGIS staff will continue to need to access the management level at the Council on a variety of matters for reporting purposes and for support on financial and other matters.

7.0 Funding/Fees

7.1 Funding for Coordination Functions

One of five MetroGIS strategic issues endorsed by the Board was “identify a means to secure long-term financing and an appropriate organizational structure for MetroGIS”. In March 1998, a grant was applied for from the Federal Geographic Data Committee’s NSSDI Framework Demonstration Program to identify the costs of data sharing coordination, a method to fairly distribute these costs among the beneficiaries, and an appropriate organizational structure for MetroGIS. A \$100,000 grant⁴ was awarded for MetroGIS’ proposal in June 1998. In July 1998, the Policy Board concurred with a recommendation from its management team to present the principles of the fair-share allocation scheme at an information forum⁵ for comment. On October 27, 1999, following the Information Forum, the Policy Board directed its management team to prepare a business plan to secure long-term financing for MetroGIS’ priority functions, less physical data development. It was also acknowledged by Council management and the business planning team that metropolitan government, the Metropolitan Council in particular, will receive the greatest benefit from the existence of a regional GIS.

⁴ The final project report, entitled “MetroGIS Fair-Share Financial Model Final Project Report”, is posted on the MetroGIS Internet site at www.metrogis.org/ under documents

The fair-share financial model developed with the NSDI Framework Demonstration Grant was subsequently refined during the business planning process. The fees that would result from the refined model are shown in Table 8. Of the \$405,000 proposed expenditure budget for MetroGIS in 2002, the Metropolitan Council's share is projected, according to the model, at \$220,000 (equivalent to the proposed 3.25 FTE).

Table 8: Modified Fair Share Model Funding Proposal for MetroGIS

Funding Source	Subscriber / Sponsor (Candidates for Study Purposes)	Proposed 2002 Contribution or Fee	Proposed Revenue from Each Subscriber Class
Metropolitan Council as a sponsor	NA	\$220,000 (3.25 FTEs)	\$220,000
Metropolitan Agencies	Metropolitan Mosquito Control District	\$15,000	\$30,000
	Metropolitan Airports Commission	\$15,000	
Federal Agencies	U.S. Geological Survey	\$10,000	\$30,000
	National Park Service	\$10,000	
	US Corps of Engineers	\$10,000	
State Agencies	Minnesota Department of Transportation	\$10,000	\$30,000
	Minnesota Department of Natural Resources	\$10,000	
	Minnesota Pollution Control Agency	\$10,000	
Universities and Colleges	University of Minnesota	\$10,000	\$30,000
	University of St. Thomas	\$10,000	
	1 Undesignated College	\$10,000	
School Districts	5 School Districts from \$2,500 - \$7,000	\$30,000	\$30,000
Municipalities	26 cities from \$400 - \$7,000	\$25,000	\$25,000
Watershed Districts	5 watershed districts @ an average of \$2,000 ea.	\$10,000	\$10,000
TOTAL			\$405,000

Estimated cost per organization within each class as calculated by the model was shared with several of the candidate organizations⁶. Each of the eight federal, state and metropolitan organizations interviewed indicated strong support for data sharing and the objectives sought by MetroGIS. They 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

⁵ A summary of the comments received at the September 1999 information forum is posted on the MetroGIS Internet site at www.metrogis.org "Supported Projects-Fair Share Financial Model Project"

⁶ A summary report was prepared for each interview and is available upon request.

once they have an opportunity to evaluate the usefulness of each regional dataset available through MetroGIS and the interoperability to MetroGIS' regional datasets.

In addition to 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 assumes that:

- The counties will enter into a common data sharing agreement and related licensing with the Council and others as deemed appropriate, effective through 2003, which continue the data sharing terms of the current agreements but without payment of additional project funds.
- The current \$75,000 data maintenance payment to the counties will cease December 2001 and that in its place the Council agrees to support centralized Internet-based distribution of regional data sets and if the budget allows, support the distribution of county geospatial data that relate to MetroGIS' priority information needs.
- Appropriate representatives of each organization represented on the Policy Board will continue to actively participate in the affairs of MetroGIS, including promotion and active participation of GIS users groups within each county.
- 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. Based upon MetroGIS' projected Technical Activities (see Appendix B), information should begin to be available in 2001 regarding the MetroGIS communities' use of regional datasets.
- The business plan takes into account this direction from Council management.

7.2 Private Sector Access Fees

The MetroGIS Board has indicated an interest in determining the potential for marketing products and services that have been developed to serve public sector needs, to the private sector. There are numerous uses for regional data sets, and strong interest in acquiring such products has been voiced from private sector interests. The business planning process included an examination of private sector "access fees", or fees to acquire regional data sets for internal business use, and not for re-sale to other users. The proposed pilot project will allow for further testing of the potential for sale of regional datasets to private sector interests. If access fees are determined to be feasible from a legislative, policy, legal, and practical standpoint, possible uses for the revenue generated from access fees should also be explored. Some possible uses of the revenue that could be evaluated include covering MetroGIS costs to acquire county data sets (estimated at \$75,000), additional costs incurred by counties in developing data sets (cost unknown), administration of the activities associated with making regional data sets

on CDs (estimated at \$25,000) available to the private sector. Costs of automated assembly and distribution would be greater than costs estimated for distribution of CDs.

MetroGIS fees for private sector users of non-public data should be significantly lower than the aggregated fees presently charged by each of the seven counties for the same data (see Section 2.1.2). This reduction represents a recognition that the value of the data to the user is reduced if it is limited to “internal use” only. It is anticipated that licensing agreements will not allow private sector users to re-distributed data purchased through MetroGIS.

7.3 Grant Opportunities

MetroGIS has successfully applied for and received grants in the past, and as a leader and model for regional collaboration in providing GIS services, will be a likely recipient for grant funds in the future. Grants are not identified in the business plan as a source of funding for the core MetroGIS budget, since grant funds are not expected to be a source of funding for the budget. If any grants were received, the funds would likely be used for special projects outside the budget (Appendix F). For example, a likely grant-funded activity would be the creation of automated assembly, anomaly checking, and distribution of regional parcel and other regional GIS datasets.

8.0 Marketing Strategies

8.1 Customers - Public Sector

As noted in earlier sections, the concept of public sector subscribers who would share the cost of GIS collaboration has been postponed. With the public sector, there will be a focus on making products and services available and educating potential users about the benefits of participating in MetroGIS. This is intended to be an outreach function, not marketing. Although marketing was not recognized during the planning process as a critical function for MetroGIS, the importance of outreach remains to insure the GIS community is aware of MetroGIS' objectives ultimately avoiding duplication and improving efficiencies. As noted in Section 7.1, several public sector representatives were recently interviewed about their perception of the benefits of MetroGIS. While the results of this review indicate that the benefits are understood, efforts should continue to be made to further communicate these benefits to public sector entities that may be less familiar with GIS.

8.2 Customers - Private Sector

MetroGIS and the counties have been working with businesses with an interest in parcel datasets for several years. Key players in recent MetroGIS discussions have included Larry Charboneau, president and CEO of the Lawrence Group and Steve Lehr, CB

Richard Ellis. With regard to the market demand from the private sector for GIS products and services, Mr. Charboneau has made contact with a sample of potential users of regional datasets, and indicated that potential users would be interested in non-integrated datasets with attributes included for a price of between \$3,000 to \$5,000 per year. He regional datasets within the first year this product would be offered, and the number of interested users would continue to grow. While this projection is of considerable value in estimating revenues from private sector access fees, it should not be relied upon as the sole source of such information. Other sources have indicated that fees of \$10,000 to \$15,000 may more appropriately reflect the value of regional datasets.

Pricing strategies based on market demand must be more carefully examined, however, especially in light of legal concerns raised regarding data distribution and consistency with Data Practices Laws. Since better information concerning other legal and policy issues related to selling regional data sets to the private sector, is needed, a pilot project described in the next section is proposed.

8.3 Proposed Pilot Project

In order to document desired content enhancements of the regional parcel dataset, gain further insight into future market potential, and further analyze governmental structure and fee policies, a pilot project is proposed as follows:

The MetroGIS Regional Parcel Dataset Pilot Project is tentatively scheduled to begin May 2000. The purposes are to identify enhancements that the user community would like considered to the dataset, including but not limited to content, currency, accuracy, and method of distribution, which at the present time is limited to CD-ROM, and obtain feedback about the value of this regional dataset to prospective user operations.

A wide spectrum of public and private sector users will be invited to participate. However, before the project can begin, a licensing agreement must be in place that the counties and Council accept and each of the seven counties must have authorized the Council to distribute the regional parcel dataset created Fall 1999 by the MetroGIS "stitch committee". The Council will then distribute this set on compact discs to public and private sector entities. There will be no fee for access during the pilot project but a license must be executed that prohibits redistribution, requires participation in the evaluation of dataset, and requires destruction of the data at the completion of the pilot project. The letter of invitation, which will be mailed to a wide selection of public and private sector

GIS data users, would include a statement that access fees have been waived for purposes of the pilot project to encourage participation.

In Fall 2000, an evaluation forum would be held to identify desired enhancements to the dataset and to obtain feedback on the value a regional parcel dataset to the business needs of public and private sector GIS data users. In addition, a determination of the minimal level of structure required to allow MetroGIS the ability to distribute data and achieve other objectives would be made prior to considering alternative governmental structures.

Proposed benefits of the pilot:

- MetroGIS and the counties can evaluate whether or not the regional parcel dataset with all attributes currently common to the counties is of interest to the private sector.
- By making the parcel data set available to the public sector, MetroGIS can educate potential public sector users on the benefits of GIS and identify issues facing local, state and federal government to successfully benefit from the use of GIS.

Possible risks of the pilot:

- Commencing the pilot in May may not be feasible unless license agreements can be successfully and quickly standardized through negotiations with all seven County Attorney offices.

Given that the benefits clearly outweigh the risks identified, the business plan recommends that MetroGIS commence with the pilot project as soon as possible.

9.0 Recommendation and Work Program

As a result of the planning process, recommendations were developed that reflect direction from the MetroGIS Policy Board, input from the MetroGIS Policy Advisory Team and Metropolitan Council management, oversight by the MetroGIS Policy Coordinator, and contributions from the consultant team. The business plan recommends that:

1. The Council continues to fund the coordination functions for MetroGIS (\$440,000 in 2001, \$405,000 in 2002 and \$415,000 in 2003).
2. The current \$75,000 data maintenance payment to the counties ceases after 2001. Rather, MetroGIS would use the budgeted \$75,000 for outsourcing technical and administrative services to support the distribution of regional parcel datasets and distribution and enhancement of data for other collaborative efforts.
3. MetroGIS functions expand to include support of a centralized Internet-based distribution of regional and county geospatial data, as requested by the counties, which relate to MetroGIS' priority information needs.
4. MetroGIS postpone further consideration of the concept of a subscription fee program until the regional datasets required to address each of the priority information needs have been available for use and evaluation by the MetroGIS community for not less than six

months.

5. The Council continues to seek out partnerships, as opportunities present themselves, to finance MetroGIS' coordination expenses.
6. The counties, and others as appropriate, authorize designated regional custodian organizations to distribute to government organizations all regional data solutions that are aggregates of designated primary data sources.
7. MetroGIS distribute to non-government a regional parcel dataset as part of a pilot project and evaluate further work with non-government on the basis of the pilot project results. The pilot project should include the following activities:
 - Amend GIS Data and Cost Sharing Agreements between the Metropolitan Council and each of the seven counties or in some other acceptable manner authorize the Council to distribute the regional parcel dataset developed as a pilot fall 1999.
 - Prepare a GIS data licensing agreement acceptable to affected parties for distribution of the regional parcel dataset at no cost during the pilot project.
 - Identify target audiences and solicit participation in the pilot. Develop a communication strategy to describe benefits and demonstrate opportunities to potential participants. (Use materials developed through the pilot project to continue to communicate with public and private sector entities).
 - Obtain feedback from the recipients of the pilot regional parcel dataset concerning the usefulness of the data to their organizations, problems encountered to obtain and use the data, and any enhancements needed. This feedback will assist MetroGIS in better defining its products.
8. Based on the pilot project results, determine what, if any, changes need to be made to MetroGIS and its functions. An issue of particular concern is whether MetroGIS should increase its involvement with the private sector. In addition, a determination of the minimal level of structure and budget required to allow MetroGIS the ability to distribute data and achieve other objectives would be made.
9. The counties enter into a common data sharing agreement and related licensing with the Council and others, as deemed appropriate, effective through 2003, which continue the data sharing terms of the current agreements but without payment of additional project funds.
10. The MetroGIS Policy Board continues to be stakeholder governed, as it is currently, and has been since its inception. Member organizations commit to continued active participation of their elected officials and senior management on the Policy Board, Coordinating Committee, and Advisory Teams.
11. Local government, as well as all other stakeholders, actively participate in data production, in reviewing MetroGIS products to assure accuracy for users and in attending MetroGIS committees as the opportunity arises.

12. Appropriate representatives of member organizations continue to actively participate in the affairs of MetroGIS, including promotion and active participation of GIS users groups within each county.
13. All member organizations continue to pursue the previously endorsed work plans for enhancement of MetroGIS' Data Finder tool and conceptual design for remaining priority information needs.
14. MetroGIS utilizes all available outreach opportunities to educate potential GIS users about MetroGIS.
15. Register the "MetroGIS" name with State and federal authorities.

To accomplish these recommendations, the following work program is recommended for 2000 and 2001:

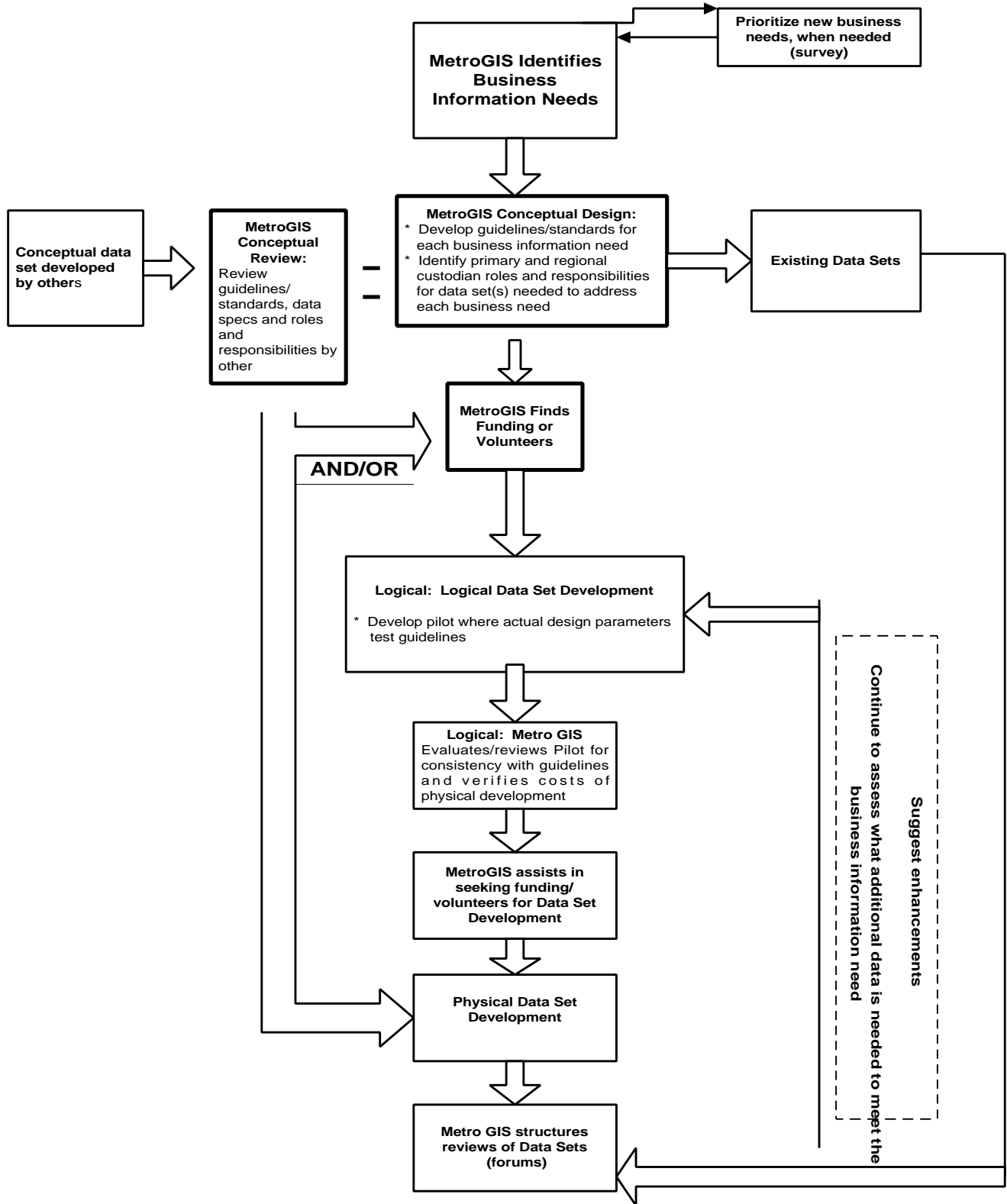
- Secure support commitment from Metropolitan Council.
- In the later part of 2001, execute data sharing agreements with counties, Metropolitan Council, others as appropriate, effective January 1, 2002 through 2003.
- Document any problems that arise associated with informal organizational structure that affect ability to achieve priority functions.
- Implement physical regional data solutions to the following priority business information needs: parcels, future land use, existing land use, school district jurisdictional boundaries, and census geography.
- Complete conceptual regional solutions to the following priority business information needs: watershed district jurisdictional boundaries, lakes/wetlands, rights to property, where people live, land regulations, highway/road networks, socio-economic characteristics of areas.
- Complete Regional Parcel Dataset Pilot Project – evaluate desired enhancements to the regional data content, method of distribution, prototype multi-party distribution authorization and licensing, and address intellectual property rights issues concerning distribution to the private sector of data, which qualifies for "cost recovery".
- Test centralized distribution of county parcel data.
- Investigate benefits of registering "MetroGIS" name with state and federal government
- Implement an outreach strategy to inform MetroGIS community of MetroGIS' objectives, projects where partnering is necessary to succeed, and opportunities to participate.

APPENDIX A: ANALYSIS OF GIS FUNCTIONS AND BENEFICIARIES

Function	MetroGIS	LMIC	Gov's Council on Geographic Info.	GIS/LIS Consortium	Ramsey Co. GIS Users Group
Beneficiaries	Data/resource/function providers sole users of MetroGIS data	all gov assn. nonpr. pr sect.	fed, state, local gov., bus/industry ed institutions	individuals	Ramsey Co cities, police, fire, sheriff, schl dist, soil & water conserv dist
Coordination and Technical Functions					
Promote and endorse voluntary policies which foster coordination of GIS among the region's organizations.	X		X		X
Identify unmet GIS needs with regional significance and act on these needs.	X		X		X
Facilitate data sharing agreements and licensing among organization's stakeholders.	X				X
Develop and endorse standards for GIS data content, data documentation, and data management	X	X	X		
Require standardized GIS data content, data documentation, and data management for regional datasets.	X				
Endorse standards for telecommunications protocol and networks.					
Provide a repository of GIS human resources information (centralized job posting / position descriptions).					
Develop master contracts for regional GIS applications and procedures that serve GIS needs.	X				
Promote development and exchange of GIS applications and procedures that serve GIS	X	X	X		X
Data Development and Distribution Functions					
Create and maintain datasets for MetroGIS based on identified priorities.	X				
Fill gaps in metadata based on identified priorities	X	X			
Provide a directory of data within region and a mechanism for search and retrieval of GIS data.	X	X			
Service Functions					
Provide technical assistance to participants to retrieve, translate, and use data.	X	X			

Research Functions					
Undertake research to meet common regional GIS needs	X	X	X	X	
Promote collaborative funding of pilot projects that meet regional needs	X		X		
Outreach Functions					
Identify GIS training and continuing education needs and encourage participation.			X	X	X
Advocate for MetroGIS needs and desires with state and federal policy makers	X				
Maintain liaison relationships with committees/organizations with similar objectives to MetroGIS / organization	X	X	X	X	X
Promote forums for MetroGIS / organization stakeholders to discuss common GIS needs and opportunities	X		X	X	
Publish MetroGIS / organization newsletter	X			X	
Maintain MetroGIS / organization World Wide Web site.	X	X	2000	X	
Market MetroGIS / organization data and products.					

APPENDIX B: BUSINESS INFORMATION NEEDS PROCESS



APPENDIX C. BUSINESS INFORMATION NEEDS SCHEDULE

MetroGIS Priority Business Information Needs

Conceptual, Logical, Physical Dataset Completion Schedule and Dataset Forum Schedule

		Conceptual Design	Logical Dataset	Physical Dataset	Dataset Forum
Number	Priority Information Need	Complete	Complete	Complete	Complete
1a	County Boundaries	May-97		Jul-97	
1b	MCD Boundaries	May-97		Jul-97	
2	Street Address (TLG)	Dec-97		Oct-97	Oct-97
8	Census Boundaries	May-99		Dec-99	
13	Parcel Identifiers	Jan-99	In-progress	FTBD	
5a	Parcel boundaries	Apr-99	In-progress	FTBD	
5b	Parcel attributes	In-progress	In-progress	FTBD	
6	Lakes, wetlands, etc.	In-progress		DNR, MMCD	
3a	Land use plans (designations)	In-progress		FTBD	
3b	Land use plans (polygons)	TBD		FTBD	
7a	Land use, existing (designations)	In-progress		FTBD	
7b	Land use plans (polygons)	TBD		FTBD	
1c	School District Boundaries	Mar-00		FTBD	
12	Socioeconomic characteristics	Jun-00		FTBD	
4	Rights to Property	Sep-00		FTBD	
1d	Watershed District Boundaries	Nov-00		FTBD	
9	Where people live	Jan-01		FTBD	
10	Land Regulations	Mar-01		FTBD	
11	Highway/Road Networks	Jun-01		FTBD	

*FTBD - Funding to be determined

*TBD - Time allocation to be determined

Last Updated January 27, 2000

“Completed” refers to the portion of the project agreed upon but further work may be undertaken at a later date as information needs change and evolve.

APPENDIX D: MAJOR TASKS AND REPORTING RESPONSIBILITIES FOR METROGIS STAFF

MetroGIS Policy Coordinator

1.00 FTE

A. Work Direction and Priorities

The MetroGIS Policy Coordinator works under the direction of the MetroGIS Policy Board in carrying out the MetroGIS agenda. The Coordinator also works closely with the MetroGIS Policy Advisory Team and MetroGIS Coordinating Committee.

B. Reporting Responsibilities

The MetroGIS Policy Coordinator is accountable to the MetroGIS Policy Board, but will report to an upper-management-level position within the Council. The Coordinator works closely with the GIS Supervisor, and other Metropolitan Council staff.

C. Major Tasks

1. Manages and lead support for MetroGIS' Strategic Planning, Policy, and Organizational Development and Operation
2. Manages and lead support for MetroGIS' GIS Data and Cost Sharing Agreement and Licensing Initiatives
3. Manages MetroGIS' Outreach and Communication Activities
4. Represents MetroGIS in efforts with similar objectives (e.g. National Spatial Data Infrastructure (NSDI), MN Governor's Council on Geographic Information), at hearings concerning, metro, state, and federal policy development, and other activities as the opportunity arises.
5. Serves as project manager for strategic projects.
6. Provides work direction to MetroGIS Technical Coordinator and MetroGIS Administrative Assistant.
7. Collaborates with Council management to secure funding and agreements necessary to MetroGIS' success.
8. Monitors GIS activities of stakeholders and maintain active liaison relationships with strategic partners, members of the MetroGIS Policy Board, and members of the Coordinating Committee.

MetroGIS Technical Coordinator

1.00 FTE

A. Work Direction and Priorities

The MetroGIS Technical Coordinator receives primary work direction from the MetroGIS Policy Coordinator. Work priorities shall be consistent with the Board's objectives and the Technical Coordinator will work closely with the Technical Advisory Team to determine how to meet the Board objectives.

B. Reporting Responsibilities

MetroGIS Technical Coordinator will report to the MetroGIS Policy Coordinator.

C. Major Tasks

1. Manages and provides lead support to the MetroGIS Business Information Needs Process.
2. Collaborates with the Council's GIS Support Unit to devise work plans for Data Finder, Regional Data Management, and Technical Support activities for MetroGIS consistent with the direction of MetroGIS leadership.
3. Provides work direction to the Council's GIS Support Unit staff, through the Council' GIS Supervisor, concerning achievement of the adopted work plan.

4. Represents MetroGIS in efforts with similar objectives (e.g. MN Governor's Council on Geographic Information, MN GIS/LIS, consortium stakeholder activities and other activities as the opportunity arises.)
5. Assists the Policy Coordinator with outreach and communication tasks.
6. Serves as project manager for technical projects.

MetroGIS Administrative Assistant

.75 FTE

A. Work Direction and Priorities

The MetroGIS Administrative Assistant receives work direction from the MetroGIS Policy Coordinator. This position, which is presently a full-time position, is shared with the Metropolitan Council GIS unit and as such, receives work direction from the GIS Supervisor for the other .25 FTE responsibilities.

B. Reporting Responsibilities

This position should be accountable to the MetroGIS Policy Coordinator who coordinates with the Metropolitan Council GIS Supervisor concerning work priorities for the .25 FTE of support for the Council.

C. Major Tasks

1. Oversee the timely reproduction and distribution of agenda materials and correspondence.
2. Schedule meetings with and events and interact with managers and elected officials on a regular basis.
3. Coordinates with Finance to insure timely payment of bills and receipt of funds.
4. Responsible for insuring the MetroGIS Internet site is current (does not draft text but is responsible for posting updated materials and maintaining the calendars, etc.)
5. Manage record keeping and indexes of past MetroGIS Policy Board and Committee actions.
6. Maintain files (electronic and paper).

MetroGIS Data Finder, Data Base Administration, and Technical Support .50 FTE

It is assumed that the Council's GIS Support Unit staff will be developing applications and procedures, in addition to those outlined below and expressly for the Council's business that will benefit MetroGIS.

A. Work Direction and Priorities

The MetroGIS Technical Coordinator, in consultation with the MetroGIS Technical Advisory Team, MetroGIS Coordinating Committee and the Council's GIS Supervisor, shall establish a work program for MetroGIS' Data Finder, Regional Data Base Administration, and Technical Support functions consistent with the goals and objectives of MetroGIS.

B. Reporting Responsibilities:

The Council's GIS Supervisor allocate staff resources as needed by MetroGIS, up to a total of .5 FTEs to accomplish the individual components of the approved MetroGIS work plan. The Council's GIS Supervisor will be responsible for communicating regularly with the MetroGIS Technical Coordinator regarding achievement of the approved work program in a manner acceptable to both parties and will ensure that the resources provided are responsive to the needs of MetroGIS.

- C. Major Tasks:
1. Data Finder Technical Support (.25FTE)
 - a) Perform and then evaluate the roles and responsibilities and associated time allocations as outlined by Lynne Bly and Associates for support of the Data Finder site in (cite the document name(s) here) and recommend modifications, as appropriate.
 - b) Support programming to maintain and enhance functionality of and user satisfaction with the Data Finder site.
 - c) Provide and administer a procedure(s) to encourage timely submission of metadata updates from producers of regionally significant datasets. (Development of metadata for regional significant datasets is a requirement set forth in regional custodian agreements.)
 - d) Conduct research to evaluate opportunities and needs pertaining to coordination with Minnesota's Geospatial Data Clearinghouse and the Federal Geographic Data Committee 's (FGDC) Clearinghouse policies and procedures.
 2. Regional Data Base Administration and Technical Support (.25 FTE)
 - a) Provide leadership to develop and support a distributed mechanism to provide access to regionally significant data, including developing applications to improve ease of access and coordinating with the Metropolitan Council's Information Systems (IS) staff to coordinate operation of FTP and Internet Map Server (IMS) hardware and applications.
 - b) Support the testing, organization, standardization, and maintenance of data formats to insure interoperability of regional datasets.

APPENDIX E: ADDITIONAL METROPOLITAN COUNCIL CONTRIBUTIONS

Source of the information in the following table for overhead costs per estimates made in the Fair Share Financial Model are not necessarily related to the Council's actual costs.

Expense Category	Estimated Annual Expense
Rent	\$20,806
Electric, security, phone & misc. utilities	\$5,722
Office Furniture (beyond that currently in use)	\$2,601
General purpose office equipment & computers (excluding web site and GIS processing equipment)	\$20,806
Legal services	\$10,403
Payroll and accounting services	\$7,802
Specialized human resources services	\$2,601
Repair services for copiers, printers, general purpose computers and other office equipment	\$3,901
Misc. office, operational, & specialized unforeseen technical	\$14,738
Office supplies	<u>\$5,000</u>
TOTAL	<u>\$94,380</u>

APPENDIX F: OTHER FUNDING SOURCES: GRANTS

1. Federal Geographic Data Committee (FGDC) National Spatial Data Infrastructure (NSDI) Partnership Funding Programs

The purpose of the program is to facilitate and foster partnerships, alliances and technology within and among various public and private entities to assist in building the NSDI. The NSDI consists of technologies, policies, organizations and people necessary to promote cost-effective production, ready availability, and greater utilization of high quality geospatial data among a variety of sectors, disciplines, and communities. (Department of the Interior, U.S. Geological Survey)

The FY 2000 NSDI Cooperative Agreements Program funds projects in three categories of activities. The first category, Don't Duck Metadata, promotes metadata collection, metadata publication (via a clearinghouse access of geographic data linked to the Internet), and activities that support the transition from the FGDC Content Standard for Digital Geospatial Metadata to the ISO Metadata Standard 19115 (under development). The second category, Framework Community Implementations, promotes addressing of community issues and decision-making utilizing basic geographic data (NSDI Framework). The third category, Web Mapping Testbeds, funds projects that test the OpenGIS Consortium's Web Mapping Testbed specifications. (Department of the Interior, U.S. Geological Survey)

Applications may be submitted by federal agencies, state and local government agencies, educational institutions, private firms, non-profit foundations, and federally acknowledged or state-recognized Native American tribes or groups.

The program announcements and application forms for the fiscal year 2000 NSDI Cooperative Agreements Program were available in mid-January. Applications must be received by March 15, 2000.

Under the category Don't Duck Metadata, funds are provided for organizations needing assistance in metadata creation and clearinghouse development and those organizations that can provide training assistance or state / regional consolidated assistance efforts.

Projects funded under the category Framework Community Implementations must demonstrate collaborative GIS approaches and decision-support in solving community issues utilizing basic "framework" data using or refining existing FGDC Framework standards. Applicants must demonstrate a partnership with at least one other organization and are expected to make a 100% in-kind award match.

Projects funded under the category Web Mapping Testbeds are expected to result in the technical ability for users to discover and view map data from multiple map servers through the National Geospatial Data Clearinghouse.

2. Legislative Commission on Minnesota Resources (LCMR)

Projects to be funded in 2001 must fall under the following five categories: 1) improvement or development of recreational and natural systems, 2) ecological management, 3) implementation of research, 4) protection and restoration of critical habitat, and 5) environmental education. Applications are open to everyone provided there is a demonstrated public benefit.

Funding for data development or distribution, per say, does not qualify for funding under LCMR's guidelines. However, if data development (or distribution) were part of a larger project, for example, on ecological management, it could possible qualify for funding.

3. Minnesota Department of Transportation (Mn/DOT)

Elizabeth Hobbs and Dave Gorg of Mn/DOT were contacted. There does not appear to be any funding available through Mn/DOT for GIS-related initiatives.

4. Minnesota Planning – Land Management Information Center (LMIC)

Don Yaeger of LMIC was contacted. Minnesota Planning does not have funding available to assist entities in GIS-related activities. LMIC works with state, local, and federal governments, professional associations, nonprofit organizations, and the private sector to coordinate activities related to geographic information technology and to share data and provide technical assistance.

5. I-35W Coalition

I spoke with Joseph Strauss of the I-35W Coalition and he is not aware of any funding for GIS-related activities other than the federal NSDI grants.

6. ESRI (Environmental Systems Research Institute, Inc.)

ESRI does, on occasion, offer a series of grant programs. In the fall of 1999, ESRI had two series of grant programs with categories for data development. There were numerous applicants competing for funds, so ESRI adopted screening criteria to guide them in choosing applicants. MetroGIS applied for a grant, but was denied funding. Because MetroGIS is part of the Metropolitan Council, they were considered an existing ESRI user, making them ineligible for funding.

7. The McKnight Foundation

The McKnight Foundation supports nonprofit organizations and public agencies in the following areas and for the following purposes. Funding is not available for projects or services anticipated by MetroGIS. An organization's mission and most of its activities must be closely related to the Foundation's priorities.

- Children, Families, and Communities: to improve outcomes for children and youth of all ages to maintain a maintain a vital, attractive community in which children and families thrive
- Arts: to expand access to the arts, encourage and support excellence, and improve the management of arts organizations
- Environment: to maintain and restore the health of the Mississippi River and to encourage energy conservation and the use of alternative energy in Minnesota
- Initiatives: to encourage innovation to bring sustained, comprehensive attention to bear on problems that are particularly challenging, large, or long-lasting.
- International: to support projects enhancing women's economic opportunities in three African countries; to strengthen health services and human development programs in three Southeast Asian countries; and to support international conflict resolution and human rights
- Research and applied science: to support scientific research related to memory; eating disorders; and plant biology related to food crops important in less developed countries

8. The St. Paul Companies, Inc. Foundation

Contributions by the St. Paul Companies, Inc. Foundation are made only for the charitable and volunteer efforts of nonprofit organizations. Support for public entities or institutions are considered on a limited basis when there is a 501 (c)(3) community-based partner in a leadership role in the proposed activities.

APPENDIX G: PRIORITY INFORMATION NEEDS

MetroGIS

Priority Information Needs

Endorsed by the MetroGIS Policy Board

May 28, 1997

Rank: Information Need Statement (I need to know...)

- 1... the boundaries and characteristics of a specified jurisdiction (*ex: city, school district, county, police and fire districts*). **(Jurisdictional boundaries)**
- 2... the street addresses for specified locations. **(Street addresses)**
- 3... about land use or development plans that have been officially adopted by public bodies. **(Land use plans)**
- 4... who has rights to a property, including ownership, leases, easements, right-of-way **(Rights to property)**
- 5... the boundaries and location of a specified parcel. **(Parcel boundaries)**
- 6... the locations and characteristics of water features (*ex: lakes, wetlands, floodplains, aquifers, watersheds*). **(Lakes, wetlands, etc.)**
- 7... how a piece of land is being used, including whether or not it is vacant. **(Land use, existing)**
- 8... the boundaries and characteristics of census areas (*ex: census blocks, block groups, tracts*). **(Census boundaries)**
- 9... where people live and how to contact them. **(Where people live)**
- 10... the regulations that affect the use of a piece of land, such as zoning. **(Land Regulations)**
- 11... the locations and characteristics of roads/highways. **(Highway/road networks)**
- 12... the socioeconomic characteristics of an area's population (*ex: census tract, count, city*). **(Socioeconomic characteristics of areas)**
- 13... a unique identifying attribute of a land parcel, such as parcel ID. **(Parcel identifiers)**

Notes:

1. A consensus-based repeatable process has been developed to identify appropriate sources of data to answer of these information needs. The process was prototyped June through October 1997 with the Jurisdictional Boundaries Information Need.
2. The process involves formation of workgroup comprised of subject matter experts with diverse perspectives for each information need.
3. These thirteen priorities were selected from a list of 87 candidates. MetroGIS' efforts will likely move on to several of the other 87 candidates, beginning in 2002. MetroGIS' work plan assumes the desired specifications and custodians will have been determined by that time for the data sets to answer each of the initial thirteen priorities information needs.

APPENDIX H : ISSUES THAT NEED TO BE RESOLVED WHEN DEVELOPING A JOINT POWERS AGREEMENT

- 1) Membership and voting rights
- 2) Purpose and Duties of MetroGIS
- 3) Delegation of Powers
 - Adopt Annual Work Plan
 - Apply for grants and funding
 - Enter into contracts for services and data acquisition (counties cost sharing agreements)
 - Adopt a budget
 - Establish and collect subscription or access fees or other contributions/dues
 - Contract for management, legal and accounting services
 - Seek grant moneys
- 4) Withdrawal rights
- 5) Dispute resolution mechanism

Why a Formal Organizational Structure Is Timely

- 1) It is a key requirement for developing certain of the databases, particularly the Parcels Data Set.
 - Current data sharing agreements do not address distribution and intellectual property rights and licensing involved in development and distribution of regional datasets developed through integration of primary datasets.
 - Information on costs will also be available so the future benefits and costs of MetroGIS can be analyzed when a decision is made to proceed.
 - With data distribution, liability concerns also need to be addressed (indemnification and insurance)
- 2) Current data and cost sharing contracts for primary producer data will begin to expire December 31, 1999.
- 3) Each party has individual needs; Council will not automatically invest in integration of data that exceeds its business needs, without commitment of others. That and other benefits can be realized through the collective approach

**APPENDIX J: SUMMARY OF THE FAIR SHARE MODEL AND THE BASIS FOR THE FEES
SHARE FOR COMMENT**

To the MetroGIS Policy Advisory Team:

We have compiled the accompanying schedules as identified in the table of contents of the MetroGIS project in accordance with standards established by the American Institute of Certified Public Accountant's.

The accompanying projection and this report were prepared to assist MetroGIS in assessing the financial feasibility of establishing a MetroGIS system to offer its services to a seven county region surrounding Minneapolis/St. Paul Metropolitan Area. The report includes projecting operating revenues, expenses, and cash flows for a mature MetroGIS based on estimated operating costs and market penetration rates. This report should not be used for any other purpose.

A compilation is limited to presenting, in the form of a projection, information that is the representation of management and does not include evaluation of the support for the assumptions underlying the projection. We have not examined the projection and, accordingly, do not express an opinion or any other form of assurance on the accompanying statements or assumptions. Furthermore, there will usually be differences between the projection and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material. We have no responsibility to update this report for events and circumstances occurring after the date of this report.

VIRCHOW, KRAUSE & COMPANY, LLP

February 2000

MetroGIS

Introduction

MetroGIS was established by the Metropolitan Council with the intention of providing a Geographical Information System (GIS) to a seven county region that surrounds Minneapolis/St. Paul, Minnesota. The GIS project received a federal grant to develop a fair share financial model to assess the financial viability of a centralized GIS system. The initial project consisted of four tasks:

- Task A - Clarification of appropriate roles and framework functions.
- Task B - Estimate the costs of collaboration of the Metropolitan Council.
- Task C-1 - Development of a fair share financial model.
- Task C-2 - Recommend an appropriate organizational structure.

The initial project resulted in a recommendation to develop a business plan to insure the long-term stability of MetroGIS. Virchow Krause & Co, LLP was retained to assist Richardson, Richter in development and refinement of the Fair-share financial model. Further analysis and discussions followed that recognized that a modified cost structure and business purpose was needed for MetroGIS. The Fair-Share Financial Model was modified to reflect these changes.

This section of the report details the development of the fair share financial model. The objective of this portion of the project was to develop a pricing model for the services offered by MetroGIS to area participants that will ensure the long-term financial stability of MetroGIS, while keeping stable or reducing costs for data providers and data consumers.

Certain constraints on prices were identified in the original fair share financial model and were left unchanged in the revised model. These constraints limit the fees and costs that can be charged to area participants based on the following factors:

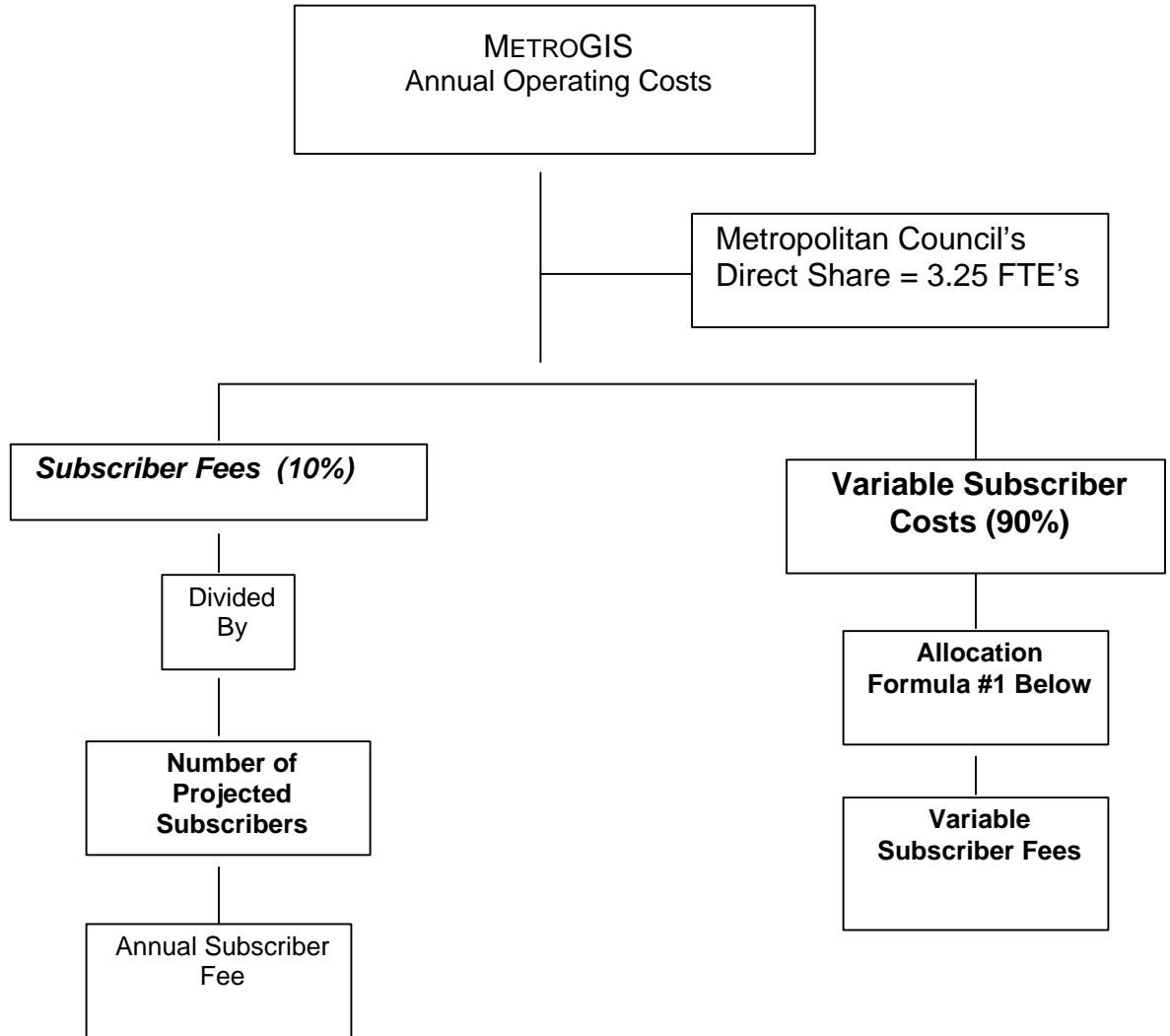
1. **Equivalent Effort** - No organization will be expected to contribute more to support a MetroGIS data need than it would have to pay to meet its internal needs outside of membership in MetroGIS.
2. **Cost of Data Development** - Organizations will not be expected to incur costs to develop or maintain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

These constraints place limitations on the prices that can be charged to data users and ensure data producers are appropriately compensated for expenses incurred outside of their normal business function.

MetroGIS

Fee Development Process

Overview of Fee Development Process



Allocation Score = (Projected # parcels X Scale Factor) / Total Parcels in Dataset
 Formula #1

$$\frac{\text{Sum of class allocation scores}}{\text{Sum of all classes allocation scores}} \times \text{Variable Subscriber Costs}$$

MetroGIS

Subscriber Classes

The following classes of users were established:

1. Municipalities
2. School Districts
3. Metropolitan Government
4. State Government
5. Federal Government
6. Counties
7. Watershed⁷
8. GIS Users Groups

Other potential users were identified but not included in the initial cost allocation model. Provisions will be made to incorporate these subscriber classes at a later date.

Establishing Costs

Costs to operate the MetroGIS organization were developed by Richardson Richter and were included in development of the Fair-Share financial model. The initial cost estimate for first year was \$405,000.

MetroGIS Annual Operating Costs:

Total Cost for operation of MetroGIS	\$405,000
Less: Direct Allocation to Metropolitan Council	<u>220,000</u>

Remaining cost to allocate to remaining classes	<u>\$185,000</u>
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Cost allocation between Base Subscriber Fee and Parcel Fee

Allocation 10% - Base Subscribers Fee	\$18,500
Allocation 90% Parcel Fee	<u>166,500</u>
<i>Total Allocated Costs</i>	<u>\$185,000</u>

⁷ For purposes of subscriber fee estimates, Water Management Organizations (WMO) have in the past been typically funded exclusively by city government and therefore were assumed to be extensions of city government. Subscriptions will be available to WMO's, that could have the effect of reducing the estimated watershed fee.

MetroGIS

Cost Allocation to Subscriber Classes:

Allocation of Base Subscribers Fee (\$18,500):

Subscriber Penetration Rates

Class	Potential Subscribers	Penetration Rate	Estimated Subscribers
Municipals	173	15%	26
School Districts	66	8%	5
Metropolitan Gov't	2	100%	2
State Gov't	3	100%	3
Federal Gov't	4	100%	4
Watershed Districts	12	30%	4
Counties	0	100%	-
Higher Education	5	100%	5
GIS Users Groups	4.5	100%	5
Totals	269.5		53

Allocation of Base Subscriber Costs - \$18,500

Total Subscriber Costs	\$ 18,500
Projected Subscribers	53
Base Subscriber Fee	\$ 347

Class	Projected Subscribers	Subscriber Fee	Subscriber Costs
Municipals	26	\$ 347	\$ 9,005
School Districts	5	347	1,832
Metropolitan Gov't	2	347	694
State Gov't	3	347	1,041
Federal Gov't	4	347	1,388
Watershed Districts	4	347	1,249
Counties	0	347	-
Higher Education	5	347	1,735
GIS Users Groups	5	347	1,562
Totals	53		18,506

* Difference due to rounding

MetroGIS

Allocation of Parcel Fee - \$165,500

Development of Projected Number of Parcels:

Class	Potential Parcels	Penetration Rate	Estimated Parcels
Municipals	782,629	35%	273,920
School Districts	882,629	35%	308,920
Metropolitan Gov't	882,629	100%	882,629
State Gov't	882,629	100%	882,629
Federal Gov't	882,629	100%	882,629
Watershed Districts	420,258	35%	147,090
Counties	882,629	0%	-
Higher Education	882,629	100%	882,629
GIS Users Groups	50,000	75%	37,500
Totals	6,548,661		4,297,947

Projected Parcels Adjusted for Scale Factor Weighting (Please See Definitions)

Class	Potential Parcels	Scale Factor	Adjusted Parcels
Municipals	273,920	2	547,840
School Districts	308,920	2	617,840
Metropolitan Gov't	882,629	1	882,629
State Gov't	882,629	1	882,629
Federal Gov't	882,629	1	882,629
Watershed Districts	147,090	2	294,181
Counties	0	2	-
Higher Education	882,629	1	882,629
GIS Users Groups	37,500	2	75,000
Totals	4,297,947		5,065,377

Scale Factor - A value that reflects the costs of developing data at the appropriate scale to meet the need of most users within the organizational category. A value of 3 reflects large-scale data, which is very costly to develop, while a value of 1 reflects small-scale data, relatively inexpensive to develop. A rating of 2 was assigned to all subscriber classes with the exception of state, federal and Metro Government (Excluding Metropolitan Council), which were assigned a value of 1. The data needs of state, federal and metropolitan government are not anticipated to require the scale of informational needs as the other user classes. It is recommended that the "Scale Factor" be incorporated into future surveys.

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Allocation of Parcel Costs Based on Adjusted Number of Parcels

Total Parcel Costs	\$	166,500
Adjusted Parcels		5,065,377
Adjusted Parcel Costs	\$	0.033

Class	Adjusted Parcels	Parcel Fee	Parcel Allocation	Projected Parcels	Parcel Fee
Municipals	547,840	\$ 0.033	\$ 18,008	273,920	0.066
School Districts	617,840	0.033	20,309	308,920	0.066
Metropolitan Gov't	882,629	0.033	29,012	882,629	0.033
State Gov't	882,629	0.033	29,012	882,629	0.033
Federal Gov't	882,629	0.033	29,012	882,629	0.033
Watershed Districts	294,181	0.033	9,670	147,090	0.066
Counties	0	0.033	-	-	
Higher Education	882,629	0.033	29,012	882,629	0.033
GIS Users Groups	75,000	0.033	2,465	37,500	0.066
Totals	5,065,377		\$ 166,500		

Summary of Costs:

Class	Direct Allocations	Base Subscriber	Parcel Costs	Total Costs	Percent Total
Municipals	-	\$ 9,005	\$ 18,008	27,012	7%
School Districts	-	1,832	20,309	22,141	6%
Metropolitan Gov't ⁸	\$ 220,000	694	29,012	249,706	62%
State Gov't	-	1,041	29,012	30,053	7%
Federal Gov't	-	1,388	29,012	30,400	8%
Watershed Districts	-	1,249	9,670	10,919	3%
Counties	-	-	-	-	0%
Higher Education	-	1,735	29,012	30,747	8%
GIS Users Groups	-	1,562	2,465	4,027	1%
Totals	\$ 220,000	\$ 16,944	\$ 164,035	\$ 400,979	100%

⁸ Metropolitan Government was allocated a direct amount equal to 3.25 FTE's. Additional charges for other Metropolitan Governments are also included in this line amount.

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Summary of Significant Assumptions

Data Development and Operating Costs

Data development and operating costs provided by Richardson, Richter and estimated at \$405,000. The original model developed as part of the fair-share financial model⁹, included a benefit factor to allocate the costs of data development. Data development was excluded as a function of MetroGIS and not included as part of the cost allocation model of this report. The benefit factor should be included in the model if data development costs are included as a function of MetroGIS.

Depreciation

Depreciation expense is not included in projection since subscriber fees are based on the cash basis of accounting.

Interest Income

The projection assumes that subscriber fees collected will be used to pay operating expenses and data development in the year the fees are collected and interest income will not be material.

Subscriber (Market) Penetration Rates

Market penetration rates are a critical component of the study. The subscriber base used in the report is the number of potential subscribers for Cities, School Districts, Counties, Watershed Districts, and Metropolitan Government, State and Federal Government. The market penetration rates for each class are detailed in the table of Cost allocation to Subscriber Classes. Assumptions that are very conservative will result in subscriber fees that may make it difficult to achieve adequate participation. Market penetration rates that are unrealistically high may result in revenue shortfalls.

Market penetration and parcel penetration rates for municipalities, school districts, and watershed districts are not consistent due to the following:

1. Some larger units of government represent as much as 15% of the total number of parcels within the seven county region. The addition of one of these large units of government will distort the projection.
2. It is anticipated that larger users will be the first to subscribe because they have the resources to utilize the data that is available from MetroGIS.
3. Number of subscribers and parcel penetration rates used in the analysis was based on discussions with Policy Advisory Team, MetroGIS Staff and discussions with larger units of government.
- 4.

Parcel Data

MetroGIS provided parcel data used in the analysis.

Subscriber Base Charges

Staff and non-staff costs related to the operation of MetroGIS are allocated 90% to the variable subscriber fee and 10% to the base subscriber fee. Certain costs related to MetroGIS are unaffected by the size of the subscribing organization, including marketing, training, billing, accounting, building costs, utilities, etc. While it is difficult to determine the exact amount to

⁹ See Section 6 of the "MetroGIS Fair Share Financial Model Consultant Team's Report" dated November 10, 1999 and the accompanying Final Report Appendices, dated October 7, 1999 for a detailed explanation.

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allocate directly to subscriber base fee, the allocation recognizes the existence of this fixed subscriber cost. An accounting system will be needed to accurately reflect these costs in the manner described above.

Recommended Fee Structure

Base Subscriber Fee – Fees to users based on the estimated costs to maintain each subscriber. This charge will recoup the costs to serve a customer and is the same for all users.

Variable Subscriber Fee - A fee based on the number of parcels within each subscriber's jurisdiction.

GIS User Group Participation Credit – A 50% credit for Subscribers that participate in a County GIS Users Group consistent with the county based GIS user groups promoted by MetroGIS.

Summary of Significant Accounting Policies

Nature of Projection

The financial projection presents, to the best of management's knowledge and belief, MetroGIS' expected results of operations for the projection period. Accordingly, the projection reflects its judgment as of August 19, 1999, the date of this projection, of the expected conditions and its expected course of action. The assumptions disclosed herein are those that management believes are significant to the projection. There will usually be differences between projected and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material.

Nature of Operations

This report was prepared to assess the feasibility of establishing a MetroGIS system. If formed, the initial review and recommendation would be to organize MetroGIS under a joint powers agreement involving the seven metropolitan counties, as well as representative cities, watersheds and schools. The system would account for the cost of operations on a continuing basis and be overseen by a Joint Powers Board. It would provide GIS services to properties and entities within the seven county regions that surround Minneapolis/St. Paul.

Revenue Recognition

Revenues are recorded for service rendered based on number and size of subscribers on the cash basis of accounting.

Expenses

Projected expenses are reported on the cash basis of accounting.

Construction Costs and Capital Additions

Data development costs and capital additions are recorded at original cost.

Depreciation

Depreciation was excluded from the analysis as pricing for services is on the cash basis of accounting.

