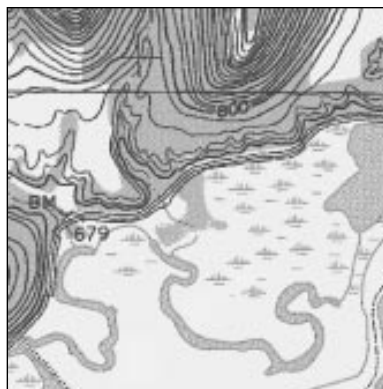


Seeking Common Coordinates



Minnesota Governor's Council
on Geographic Information

Fiscal Year 1996 Annual Report

June 30, 1996

THE GOVERNOR'S COUNCIL ON GEOGRAPHIC INFORMATION was created in 1991 by Governor Arne H. Carlson to provide leadership in the development, management and use of geographic information in Minnesota. With assistance from Minnesota Planning, the council makes recommendations for policies, institutional arrangements, education, stewardship, standards and more.

MINNESOTA PLANNING is charged with developing a long-range plan for the state, stimulating public participation in Minnesota's future and coordinating activities with state agencies, the Legislature and other units of government.

The Governor's Council on Geographic Information invites readers to reproduce and distribute this report in part or in its entirety.

For additional copies of *Seeking Common Coordinates* or information about opportunities to participate in council committee activities, contact the council staff coordinator, Laura Muessig, at (612) 296-1208 or e-mail gc@mnplan.state.mn.us. Access the council's World Wide Web home page at <http://www.lmic.state.mn.us/gc/gc.htm>.



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June 1996

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SUMMARY

Geographic information helps decision-makers visualize and understand critical issues that are linked to location. Location is fundamental to understanding many economic, social and natural resource management issues. By bringing together technologies to efficiently store, analyze and distribute information, geographic information systems offer Minnesota's decision-makers and citizens ready access to the benefits of a geographic perspective.

Seeking Common Coordinates

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The 18-member Governor's Council on Geographic Information was created by Governor Arne H. Carlson in August 1991 to help coordinate the use and development of geographic information among all levels of government in Minnesota and to provide policy-level support to Minnesota's geographic information system users.

During fiscal year 1996, the council continued to undertake initiatives of common concern to Minnesota's geographic information community and to coordinate with organizations addressing information and technology policy. By focusing on statewide policy issues related to geographic information standards, data quality, technology investments, parcel and soils data development, and the emerging spatial data clearinghouse, the council furthered its mission to provide leadership in the development, management and use of geographic information in Minnesota.

The 1996 Governor's Council on Geographic Information pursued initiatives in four broad areas:

- Effective outreach and dialogue
- Coordinated investments in GIS technology and geographic data development
- Standards and guidelines for geographic information
- Improved access to geographic data

The 1996 council increased its level of dialogue and coordination with federal, state, regional and local organizations involved with GIS policy issues, exerted a strong voice in the political arena and expanded its visibility within the Minnesota and national GIS user communities. On the federal level, the council was recognized as an official cooperating partner with the Federal Geographic Data Committee, one of only 11 states with that relationship. On the state and local levels, the council fostered a variety of connections with the Minnesota Department of Administration's Information Policy Office, Information Policy Council and the Government Information Access Council; Legislative Commission on Minnesota Resources; Metropolitan Council MetroGIS initiative; and the Minnesota GIS/LIS Consortium.

Promoting efficient investments in geographic information and helping to develop a coordinated approach to statewide funding are major council goals. In fiscal year 1996, the council formed the Soils Data and Parcel Data committees to closely investigate the status of soils and parcel data sets and to recommend efficient, coordinated strategies for their development.

The Soils Data Committee recommended that statewide standards be followed for mapping soils to achieve a seamless, cost-effective, accurate and widely accessible statewide digital database. It also developed a classification system for summarizing the current status of soils mapping and digital map products in Minnesota's 87 counties and proposed a statewide program of digital soils mapping. The committee also began work on a brochure to help guide organizations digitizing county soil surveys.

The council's Investments and Funding Committee worked on an administrative and funding structure for modernizing land records by Minnesota's counties and cities. In its effort to promote efficient investments in geographic information, the council also made several recommendations to the state's Global Positioning System Base Station Task Force, reviewed 1997 Legislative Commission on Minnesota Resources grant proposals related to GIS and initiated a process to recognize exceptional Minnesota GIS efforts.

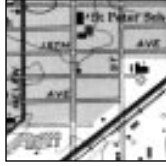
During fiscal year 1996, the council continued to vigorously support the establishment, promotion and use of geographic data standards and guidelines. The GIS Standards Committee moved its second Minnesota state data standard through the formal standards ratification process it developed in fiscal year 1995; developed, tested and promoted proposed statewide guidelines for geographic data documentation; researched and catalogued ad hoc standards in use around the state; and prepared an educational brochure, *Standards for GIS*, for distribution to the Minnesota GIS user community. Parcel-related standards issues were extensively examined by the Parcel Data Committee, which developed a series of recommendations for council action in fiscal year 1997. This committee also began creating a resource list for parcel data development for beginning GIS users.

Promoting geographic data as a widely available public resource is a major council goal. The Data Access Committee identified in detail the complex range of issues associated with sharing data among Minnesota organizations. The committee identified and analyzed in detail four basic components of a statewide geographic information clearinghouse. The committee also developed a series of policy recommendations, adopted by the 1996 council, on the clearinghouse and agreed to be a formal cooperator on a proposal to develop a geographic information clearinghouse of natural resource data.

Fiscal year 1997 initiatives will carry forward the ambitious work of this year's council in the following areas of concern:

- Coordinated investments in geographic data and technology, particularly related to soils and parcel data
- Efficient access to geographic data through a spatial data clearinghouse
- Widely used standards and guidelines for geographic information
- Effective outreach and dialogue regarding issues important to Minnesota's GIS community

During fiscal year 1997, the council will continue to serve as an open forum for the discussion of statewide geographic information policy issues. It will encourage broad involvement by GIS users and policy-makers in its activities. The council looks forward to continuing to foster the development of Minnesota's geographic information resources by pursuing initiatives that promote efficiency, coordination and a broad public benefit.



INTRODUCTION

During fiscal year 1996, the Governor's Council on Geographic Information continued to undertake initiatives of common concern to Minnesota's geographic information community and to coordinate with organizations addressing information and technology policy. By focusing on statewide policy issues related to geographic information standards, data quality, technology investments, parcel and soils data development, and the emerging spatial data clearinghouse, the council furthered its mission to provide leadership in the development, management and use of geographic information in Minnesota.

There is a need to coordinate the various activities in geographic information systems and land information systems to better exchange and share information and to enhance the stewardship of geographic information in the management of public resources.

Governor Arne H. Carlson, executive order 93-17, August 1993

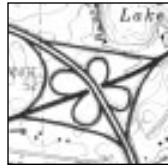
Geographic information helps decision-makers visualize and understand critical issues that are linked to location. Location is fundamental to understanding many economic, social and natural resource management issues. By bringing together technologies to efficiently store, analyze and distribute information, geographic information systems offer Minnesota's decision-makers and citizens ready access to the benefits of a geographic perspective.

The Governor's Council on Geographic Information was created by Governor Arne H. Carlson in August 1991 to help coordinate the use and development of geographic information among all levels of government in Minnesota and to provide policy-level support to Minnesota's geographic information system users. The council is made up of 18 members who are appointed annually by the director of Minnesota Planning. Members are drawn from state agencies, federal and local governments, higher education and the private sector. Administrative and technical support is provided by the Land Management Information Center at Minnesota Planning.

Seeking Common Coordinates highlights the council's accomplishments of the past fiscal year and outlines the 1997 initiatives that will carry this ambitious work forward.

Guiding Principles of the Governor's Council on Geographic Information

- Promote efficient investments in geographic information.
- Promote the sharing of geographic data, expertise and technology.
- Promote geographic data as a public resource widely available to interested parties at reasonable cost.
- Support the establishment, promotion and use of geographic data standards and guidelines.
- Encourage the development of the GIS knowledge base within state and local governments and the academic and private sectors.
- Influence a broad spectrum of decision-makers.
- Provide an effective forum for the discussion and resolution of issues important to Minnesota's GIS community.



A YEAR OF SETTING DIRECTION

The 1996 Governor's Council on Geographic Information pursued initiatives in four broad areas:

- Effective outreach and dialogue
- Coordinated investments in GIS technology and geographic data development
- Standards and guidelines for geographic information
- Improved access to geographic data

Effective Outreach and Dialogue

The 1996 council increased its level of dialogue and coordination with federal, state, regional and local organizations involved with GIS policy issues, exerted a strong voice in the political arena and expanded its visibility within the Minnesota and national GIS user communities.

Federal Level

The council communicated with Minnesota's congressional representatives regarding proposals to privatize all U.S. Department of the Interior mapping and surveying activities. It affirmed the importance of continuing key U.S. Geological Survey mapping functions within Minnesota and suggested that privatization be studied carefully before Congress takes further action. Threats to USGS services were successfully repelled during the 1996 congressional session.

In January 1996, the Federal Geographic Data Committee recognized the council as an official cooperating partner, making Minnesota one of only 11 states with that relationship. The FGDC, which represents 14 federal agencies, coordinates geographic data development throughout the nation. In April 1996, the council sent a delegate to the first FGDC steering committee meeting with state partners, which was chaired by Secretary of the Interior Bruce Babbitt. Following that meeting, the council made several recommendations to the FGDC, including:

- The highest priority goal for the FGDC should be to work with states to develop strategies to finance the collection of basic, critical geographic data layers (called "framework data" by the FGDC).
- Federal agencies need to develop better communication links with state policy groups.
- The FGDC should introduce state councils to regional federal agencies to promote better communication about activities of mutual interest.

The council will continue to keep local and national constituents informed of its activities and share with the FGDC its criteria for recognizing exceptional Minnesota GIS-related projects and programs.

The council also continued to actively participate on the National States Geographic Information Council. Through this organization, states share their

expertise in GIS technical and policy issues and pursue initiatives of common interest. Minnesota's NSGIC delegate, Christopher Cialek, helped design and implement a study of state geographic data standards needs. He also contributed to an FGDC-sponsored report documenting the challenges of implementing statewide data documentation guidelines.

State and Local Levels

I personally would like to encourage the Governor's Council on Geographic Information in your efforts in Minnesota. I am convinced that the National Spatial Data Infrastructure must be developed from the bottom up, and states are absolutely essential to this process.

Nancy Tosta, former special assistant to the secretary for Geographic Data Coordination, U.S. Department of the Interior

The council fostered a variety of connections on the state and local levels. Council members initiated discussions with the Minnesota Department of Administration's Information Policy Office, Information Policy Council and Government Information Access Council regarding geographic data standards and guidelines, access issues, and strategies for reviewing major GIS funding initiatives. In addition, three council members, Fred Logman, Les Maki and Doug Thomas, were asked to brief the Legislative Commission on Minnesota Resources on the value of GIS to Minnesota's resources, the benefits of coordination among organizations using geographic information and potential areas for state investment.

The council also participated in the regional GIS planning effort called MetroGIS initiated in 1995 by the Metropolitan Council. MetroGIS will develop a GIS network to serve the seven-county metropolitan area. Staff from the Metropolitan Council involved in this initiative participated actively on the Data Access, Parcel Data and GIS Standards committees of the Governor's Council on Geographic Information.

Articles about council activities were published in the newsletters of the Association of Minnesota Counties, the Intergovernmental Information Systems Advisory Council and the GIS/LIS Consortium. Council Chair Fred Logman was a featured participant at the July 1995 issues round table sponsored by the GIS/LIS Consortium. Consortium members were actively encouraged to participate in council committees, and the Consortium chair was given ex-officio membership on the council. The council also created a World Wide Web home page that carries the schedule and minutes of its bimonthly meetings.

The council took an active role in the September 1995 Minnesota GIS/LIS Consortium Conference. Council Chair Fred Logman was a plenary speaker, and more than 400 conference attendees from across the state received a questionnaire inviting them to comment on proposed council priorities and policy issues. The council used their responses to help refine its 1996 priorities.

At the September conference, the council sponsored several well-attended sessions on GIS standards, the spatial data clearinghouse concept, alternative models for state funding of local GIS activities and the results of the 1994 survey of statewide data needs. At the council's exhibition booth, conference attendees were able to review and update through the Internet the inventory of Minnesota data. Plans for the 1996 conference include panel discussions on GIS investment issues, standards, and soils and parcel data development issues; an

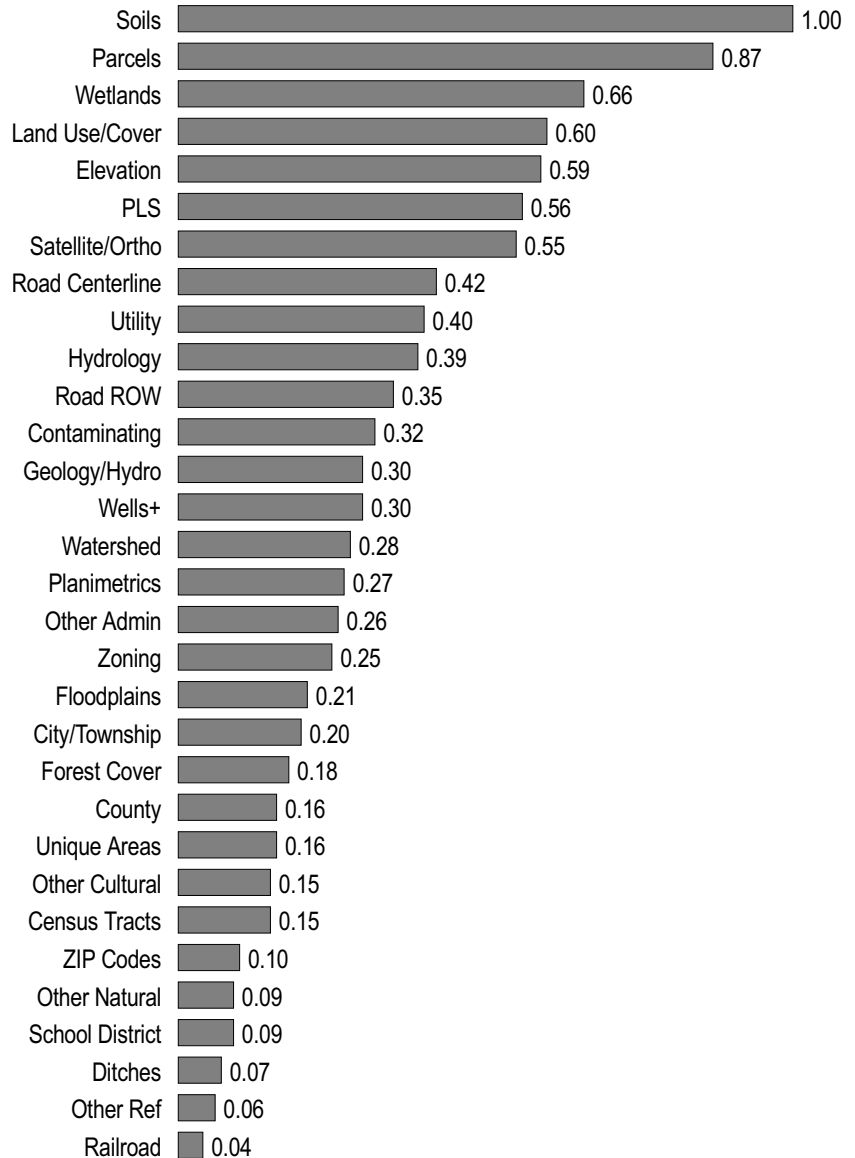
Council Is on the Web

The Governor's Council on Geographic Information World Wide Web home page is located at <http://www.lmic.state.mn.us/gc/gc.htm>.

exhibition booth with online access to the council’s home page; demonstrations of the proposed state data documentation guidelines; and a brochure summarizing council activities and opportunities for participation.

The council will continue to promote discussion with members of Minnesota’s geographic information user community and organizations responsible for state-wide information policy issues. Understanding the needs of these groups is a high priority for the council.

Survey Shows Need for Soils and Parcel Data



The council’s 1994 survey of Minnesota GIS users showed that soils and parcel data are in highest demand. In the survey, 172 respondents ranked their five top needs for new or improved data. A weight of five was given to the highest-ranking data item, a weight of four to the second highest item, and so forth. Scores were then scaled so that the top score was 1.00.

Coordinated Investments

Promoting efficient investments in geographic information and helping to develop a coordinated approach to statewide funding are major council goals.

Today's decision-makers...frequently require resource information in digital formats for use in geographic information systems....Without a coordinated effort, we face the distinct possibility of having an assortment of digitized products that do not conform to spatial data standards and could never be joined into a seamless statewide coverage.

Michael V. Martin, dean, University of Minnesota College of Agricultural, Food and Environmental Sciences

In fiscal years 1994 and 1995, the council gathered and analyzed extensive information on the use of GIS in Minnesota and the need for new and improved geographic data. The results of that survey showed that the highest demand among all Minnesota GIS users is for soils and parcel data. In response to this finding, two committees were formed in fiscal year 1996 to closely investigate the status of soils and parcel data sets and to recommend efficient, coordinated strategies for their development. In its effort to promote efficient investments in geographic information, the council also made several recommendations to the state's Global Positioning System Base Station Task Force, reviewed 1997 Legislative Commission on Minnesota Resources grant proposals related to GIS and initiated a process to recognize exceptional Minnesota GIS efforts.

Developing Digital Soils Data

In the 1994 GIS survey, the need for digital soils information ranked at the top for county, state and federal organizations, as well as many private-sector users. The survey suggested that soils data be developed as a statewide resource for local and state planning efforts. Members of the council's Soils Data Committee, co-chaired by Les Maki and Donald Yaeger, recommended that statewide standards be followed for mapping soils to achieve a seamless, cost-effective, accurate and widely accessible statewide digital database.

The Soils Data Committee also developed a classification system for summarizing the current status of soils mapping and digital map products in Minnesota's 87 counties. Four categories of readiness for map digitizing were defined based on base map quality and topographic relief. Category one contains 21 counties where soil classification and mapping are done to modern standards. Forty-two counties that have good soils data on substandard base maps comprise category two. Category three contains 21 counties with old soil classifications, and category four comprises three counties with no soil survey.

Based on these findings, the Soils Data Committee developed and submitted through the Minnesota Board of Water and Soil Resources a proposal to the Legislative Commission on Minnesota Resources to begin a statewide program of digital soils mapping. The proposal calls for working in category one and two counties to:

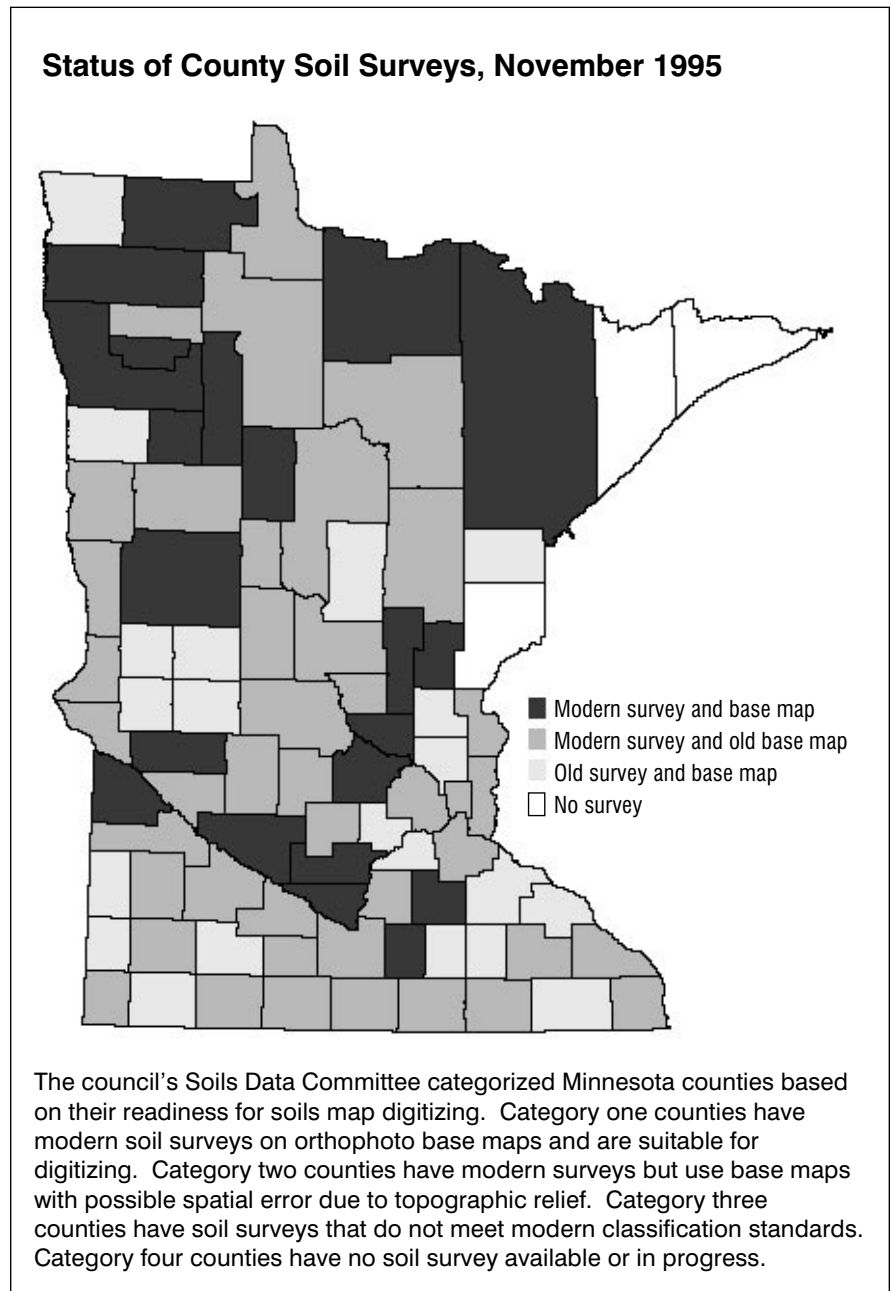
- Generate seamless, high-quality, standards-based soils data across the state
- Establish standardized, cost-efficient procedures for digitizing
- Research procedures for digitizing surveys done on poor-quality or dated base maps and photographs
- Establish a joint University of Minnesota-U.S. Natural Resources Conservation Service laboratory for soils digitizing and related research activities
- Make digital products and related documentation freely available to public agencies

If the proposal is funded, the committee will help the Board of Water and Soil Resources prepare a detailed project plan and make arrangements to begin work

on July 1, 1997. The committee may also help the board determine personnel needs for the project, develop a digitizing schedule and identify production sites.

The committee will also complete work on a brochure begun in fiscal year 1996 to help guide organizations in digitizing county soil surveys. The brochure will include information on:

- Background of the county soil survey program
- Appropriate uses of digital soil surveys
- Data documentation and standards
- Status of soils mapping and digital data sets
- General advice on selecting vendors and writing contracts



- Contacts for advice and information
- Examples of good and bad data products

During fiscal year 1997, the Soils Data Committee will work with the council's GIS Standards Committee to develop documentation guidelines for digital soils data. The Soils Data Committee will also encourage communication about digital soils mapping through the council's World Wide Web home page.

Promoting Land Records Modernization and Parcel Data Development

The 1994 GIS survey found parcel boundary data to be the second-highest state data need, particularly among county, city and private-sector respondents.

The council created a Parcel Data Committee, co-chaired by Mark Kotz and Richard Elhardt. The committee studied the GIS survey results and concluded that:

- GIS users need a central source of information about parcel boundary data.
- Standards are needed because existing parcel data sets are frequently incompatible.
- Developers of parcel data need start-up help and ongoing technical guidance.
- Financial assistance would help parcel data developers meet the need for parcel boundary data.

If we are to have comparable, useful parcel data across the state, guidelines and technical support will be necessary.

Will Craig, assistant director, University of Minnesota Center for Urban and Regional Affairs and council vice chair

In fiscal year 1996, the council's Investments and Funding Committee, chaired by Jeffrey Grosso, worked on a land records modernization funding model with implications for the future funding of parcel data development. After reviewing legislation and programs in other states, particularly those in Wisconsin, the Investments and Funding Committee recommended an administrative and funding structure for modernizing land records by Minnesota's counties and cities.

The council believes that a statewide land records modernization effort will benefit Minnesota by improving data quality and accuracy and providing better coordinated, equitable and more efficient delivery of services. Developing strategic partners among city officials, county commissioners, county administrators, recorders, assessors, auditors and treasurers will be essential to the success of this initiative. During the next year, the Investments and Funding Committee will continue its efforts to seek involvement and support from these groups. The council will promote land records modernization to the executive branch and the Legislature during fiscal year 1997.

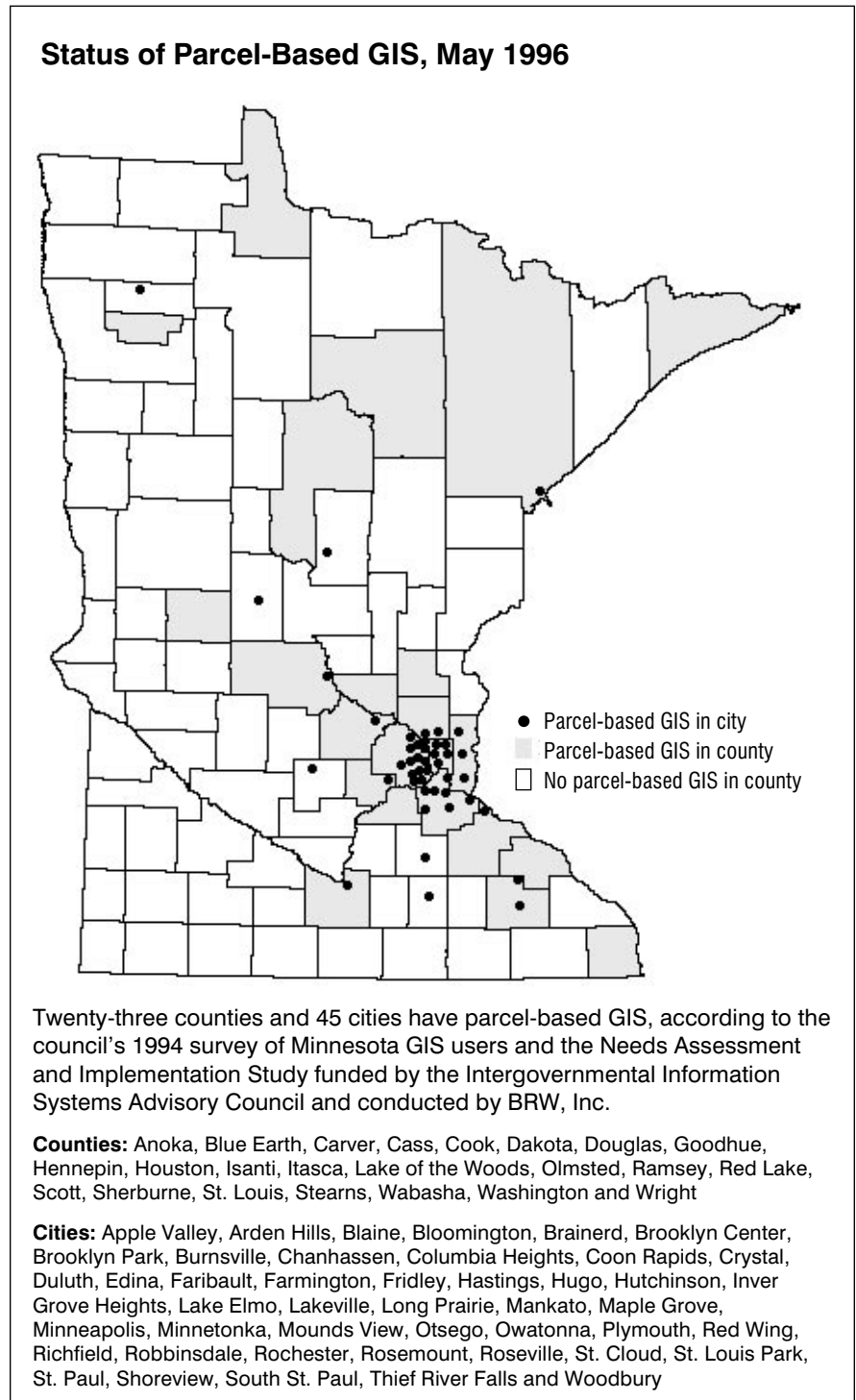
During the past year, the council has been an official cooperater on the Needs Analysis and Implementation Study for parcel-based GIS funded by the Intergovernmental Information Systems Advisory Council and conducted by BRW, Inc. Council member Jeffrey Grosso is the study director. The study will document the status of parcel-based GIS in Minnesota and suggest ways local governments can successfully implement it. The council will be briefed on project results during fiscal year 1997 and will examine statewide geographic information policy issues raised by the study.

During fiscal year 1996, the Parcel Data Committee began creating a resource list for parcel data development for beginning GIS users. This document lists publications addressing parcel data standards and related issues, examples of

successful data development partnerships, organizations to contact for assistance and current projects involving parcel data. The resource list will be expanded in fiscal year 1997.

Other Activities

During fiscal year 1996, the council deliberated on several policy issues referred to it by the Global Positioning System Base Station Task Force, a technical advi-



sory group planning a statewide GPS base station network. GPS technology uses satellites, ground base stations and portable receivers to identify locations on the earth.

The council agreed that one-meter signal accuracy is a cost-effective approach, sufficient for the majority of current GPS applications, but that contract vendors should be advised to consider higher levels of accuracy in the future. The council supported the concept of a bid process through the Minnesota Department of Administration, but recommended that an advisory group be formed to assist the

I would like to see new ways of empowering county governments to produce the databases they need.

Respondent to the council's 1994 GIS survey

Six Key Elements of the Land Records Proposal

The land records modernization proposal developed by the Governor's Council on Geographic Information incorporates six major elements:

- **Objectives.** Modernization will help local governments establish effective land records systems and improve the public's accessibility to this information. The funding model's objective is to help local governments statewide develop, manage and financially support land records modernization.
- **Definitions.** Land records may include geographic reference data, information about the natural and built environments, and administrative data such as property and tax records. Modernization will allow more efficient use of this information through better coordination among city and county departments and more effective use of technology.
- **Organizational structure.** The model calls for the modernization program to be coordinated by an existing or expressly created state board or council with balanced representation among state, county, city and regional governments. The coordinating body would promote access to and use of land records; review and approve local land records modernization plans based on their adherence to procedures, standards and guidelines developed for this purpose; and be responsible for funding, grant administration, quality assurance and technical assistance.
- **Funding.** The coordinating body would administer a state-held dedicated fund generated by land transaction fees. Between \$4 million and \$6 million would be needed annually. The aim would be to return most of these funds to local governments to be used for modernizing land records, with a portion going to program administration. Counties would receive grants based on their ability to implement an ongoing land records modernization plan and designate a land records modernization officer to administer the plan. This program would not replace any current local funding. Additional grant criteria would include a demonstrated financial need; the production of specific, tangible products; the use of innovative approaches; a commitment to interagency cooperation; and a strong likelihood of success.
- **Local government plans.** Local government plans would have to provide for efficient access to data and adherence to standards and guidelines developed by the coordinating body.
- **Data coordination.** A state data clearinghouse would maintain an accessible data directory and coordinate data generated by the land records modernization program. Counties providing data to the clearinghouse would have to ensure that their data is compatible with clearinghouse standards and widely accessible. The clearinghouse would integrate data from many different organizations and promote data sharing with a broad cross-section of public agencies and citizens.

department with ongoing management of the contract and future GPS policy issues. The council recommended that the contract vendor offer workshops, educational materials and fee-for-service consultation to agencies needing assistance with GPS start-up.

During fiscal year 1996, the council was asked to review GIS-related grant proposals submitted for 1997 funding by the Legislative Commission on Minnesota Resources. Council members reviewed 23 proposals based on their compatibility with and ability to promote the council's guiding principles. The council's evaluation criteria identified projects contributing high-priority, easily accessible geographic information to Minnesota's common data pool and promoting open dialogue about the use of geographic information to the broadest possible audience.

The council also agreed in fiscal year 1996 to recognize GIS investments that have provided exceptional value to Minnesota's geographic information community. During fiscal year 1997, the council will formally commend completed projects and programs at the state, regional or local level that demonstrate tangible benefits, exceptional results and a significant effect on other organizations. To be commended as exceptional, projects must demonstrate that they further one or more of the council's guiding principles, which are outlined in the introduction to this report.

Standards and Guidelines for Geographic Information

Coordinating the Development of State Standards

Statewide standards should be the council's number one priority.

Respondent to the 1995 survey of the Minnesota GIS/LIS community

During fiscal year 1996, the council continued to vigorously support the establishment, promotion and use of geographic data standards and guidelines. As the use of geographic information becomes more widespread, the GIS community looks to standards to guide the production of accurate, accessible and affordable data. Over the long-term, use of standards will cut costs, reduce repetitious data collection and encourage data sharing among organizations.

The GIS Standards Committee, chaired by Christopher Cialek, pursued several initiatives to promote standards and educate the community on their benefits. The committee moved its second Minnesota state standard — numeric county codes — through the formal standards ratification process it developed in fiscal year 1995. The state's Information Policy Council approved the standard in April 1996 and urged the council to recommend Federal Information Processing Standard place codes for formal adoption in the future. For a copy of the full data standard approved by the Information Policy Council, see the "Resources" section of this report.

The committee also developed and tested proposed statewide guidelines for geographic data documentation, or "spatial metadata." The simplified, standard approach to documentation advocated by the council promotes consistent reporting of data content and quality by all geographic data creators in Minnesota. It encourages data access and helps guarantee that geographic data will be interpreted and used appropriately. The documentation guidelines provide a standard structure for "data about data." Typical metadata describes database characteristics, data processing histories, file formats and methods for data retrieval. For a copy of the guideline, see the "Resources" section.

In May 1996, the committee conducted a half-day workshop on its proposed Minnesota Geographic Metadata Guidelines with assistance from the GIS/LIS Consortium and the Land Management Information Center. Fifty-two workshop participants representing city, county and regional organizations, state and federal agencies, and the academic and private sectors received a detailed overview of the proposed guidelines, samples of completed documentation and advice on implementation. Participants critiqued the proposed guidelines and made specific suggestions on their improvement, ranging from the need for a condensed version to the benefits of more specific, searchable descriptions. A second data documentation workshop will be presented at the Minnesota GIS/LIS Consortium Conference in September 1996.

During fiscal year 1997, the committee will continue to refine and promote the geographic data documentation guidelines and actively promote the development of software tools to help data collectors more efficiently generate documentation.

Promoting Standards

One of the first steps in promoting standards is to understand what's already in place in the user community.

Fred Logman, executive director,
Minnesota Counties Computer
Cooperative and council chair

During the past year, the GIS Standards Committee continued to actively promote the value of geographic data standards. The committee researched ad hoc standards in use around the state and catalogued them in *Starting Points: Conventions for Geographic Information*. The report describes 57 informal geographic information standards established by 20 county, state and federal organizations. The catalogue is designed to be a first stop for people embarking on new GIS projects. It will also be used by the committee in fiscal year 1997 in recommending standards for formal adoption. For a copy of *Starting Points*, see the "Resources" section of this report.

Committee members also prepared an educational brochure, *Standards for GIS*, for general distribution to the Minnesota GIS user community. The brochure describes types of GIS standards, identifies adoption and compliance issues, and suggests ways to get started using standards. Inserts detail specific issues related to data formats, media transfer, data quality and data documentation.

The GIS Standards Committee also began developing a World Wide Web home page to promote committee activities and encourage dialogue about standards issues. This initiative will be completed during fiscal year 1997.

Examining Parcel Standards Issues

During fiscal year 1996, the council's Parcel Data Committee extensively examined parcel-related standards issues. The committee defined a parcel as "a right, title or interest in real property. For a parcel to be mappable, it must be recorded and one must be able to graphically represent its spatial extent." The committee was particularly concerned with parcel identification numbers. PINs are the means by which a mapping parcel can be identified by a uniquely numbered location code. Minnesota counties vary widely in the way that they assign parcel identifiers, and many of these systems are unique and incompatible. A standardized approach would help counties share data, hardware, software and computer applications and would allow parcel data to be combined across counties. Many counties, however, lack resources to change the way that they assign PINs and often do not perceive any tangible benefits in doing so.

Following considerable discussion, the committee made the following recommendations:

- A scheme of unique parcel identification numbers is needed statewide.
- A unique PIN can be achieved by placing the county code number in front of the existing county PIN.
- County government is the most appropriate place to maintain the unique PIN.
- It is unrealistic and inappropriate to mandate a change in existing formats within counties.
- Many counties may want to voluntarily use a standard PIN format as they become aware of its benefits.
- The committee should suggest a “best practices” guideline for PIN formats.
- Using the PIN “best practices” guideline should be a county responsibility.
- The committee should identify PIN formats currently used by Minnesota counties and the Wisconsin Land Information Association, along with their benefits, drawbacks and commonalities. Doing so may indicate trends among counties and encourage adoption of common formats.
- The committee needs to educate the GIS community about parcel coding issues.

The committee also examined three public land survey coding schemes, one developed by the Minnesota Department of Natural Resources and two by the Land Management Information Center for their own project-specific use. It concluded that these organizations should attempt to define a single guideline or standard for PLS coding.

During fiscal year 1997, the committee will continue to evaluate the need for a standardized statewide parcel identifier and summarize these issues in a white paper to be distributed widely. The committee will also develop a World Wide Web home page to help communicate information about parcel-related issues and available parcel data resources.

Improved Access to Geographic Data

Developing a Framework for a Statewide Clearinghouse

Spatial data sets are expensive to build and maintain. Millions of dollars have been spent in Minnesota on geographic data production by private, local, state and federal organizations. Yet many GIS users are still unable to determine which data sets are available and how to access them. The council’s 1994 GIS survey confirmed that many Minnesota users are unaware of the availability of important data sets.

Promoting geographic data as a widely available public resource is a major council goal. During fiscal year 1996, the council’s Data Access Committee, chaired by Carl Hardzinski, identified in detail the complex range of issues associated with sharing data among Minnesota organizations. The committee continued the work it began in fiscal year 1995 on developing a framework for a statewide geographic information clearinghouse. The clearinghouse would be an electronically con-

nected network of geographic data producers, managers and users through which users could determine what geographic data sets exist, evaluate the usefulness of the data for their applications and obtain the data as economically as possible.

The committee identified four basic components of a statewide geographic information clearinghouse — documentation, data storage and archiving, access to data and access to data documentation — and dissected each of these components in detail to determine what actions are required to build a fully functioning clearinghouse. It also examined issues vital to justifying and promoting the clearinghouse concept.

The committee made the following recommendations, which were adopted by the 1996 council:

- The clearinghouse is a process rather than a place. Data described in the clearinghouse may be located at sites other than the data producer or lead clearinghouse agency.
- The Internet will be the primary link for access to clearinghouse resources. Since levels of technology differ markedly across the state, diverse means of access to the clearinghouse must be offered, including a mailing address and modem, voice and TTY telephone connections.
- Data producers, by agreeing to participate in the clearinghouse, will follow guidelines for making their data available to others.
- A single point of contact is needed for information about the condition, location, and availability of geographic data sets.
- A lead agency should be designated to act as the clearinghouse contact point, develop a quality assurance process to ensure that clearinghouse data sets are current and usable, serve as custodian for select data and develop partnership agreements and data exchange guidelines among Minnesota organizations.
- The Land Management Information Center at Minnesota Planning should be designated as the interim lead agency until a permanent clearinghouse structure is established.

Obviously there is a lot of geographic data out there, but we have a problem: we don't always know who has what and where to go for it.

Respondent to the council's 1994 GIS survey

World Wide Web Directory of Minnesota GIS Resources

The council's 1994 inventory of GIS users has been organized into a World Wide Web directory at <http://www.lmic.state.mn.us/gc/gisdir.htm>. The directory identifies GIS data, hardware and software in use around the state, including:

- Nearly 500 databases, which may be searched by key word, subject, geographic location, organization or person
- 283 organizations, including 35 cities, 41 counties, 38 federal sites and 46 private or nonprofit organizations
- 150 unique GIS databases in state agencies, many with statewide coverage
- 36 software packages being used for GIS applications around the state
- Uses of GIS in the private sector ranging from natural resource analysis, community planning and engineering to market research and banking
- Links to 38 other World Wide Web sites containing status maps and detailed documentation about select data sets

During fiscal year 1996, the council agreed to be a formal cooperator on a proposal submitted by the Land Management Information Center to the Legislative Commission on Minnesota Resources to develop a geographic information clearinghouse of natural resource data. Under the proposal, access to core geographic databases and a catalogue of available data would be through the Internet. The Legislative Commission is expected to act on the proposal in fiscal year 1997. If the proposal is funded, the committee will act as an advisory group to LMIC on project activity.

The committee will continue to examine clearinghouse issues during fiscal year 1997, focusing on:

- Identifying data formats commonly used by the GIS community
- Recommending levels of data documentation
- Examining institutional partnerships between data providers, users and the lead clearinghouse agency.

The 1994 GIS survey inventoried geographic data, hardware and software in use around the state. The inventory results have been used to identify resources available for sharing. Results of the GIS survey were updated and organized into a directory by LMIC staff during fiscal year 1996 and are available through the council's home page. The survey will be updated in 1997.

During fiscal year 1996, the council also forged connections with the Department of Administration's Government Information Access Council, which deals with broad information access concerns. During the coming year, the council will continue to coordinate its data access initiatives with GIAC, members of the MetroGIS initiative and other organizations active in public information access policy.



INITIATIVES PROPOSED FOR FISCAL YEAR 1997

Based on its guiding principles, the perspective provided by its diverse membership and activities begun in fiscal year 1996, the council proposes that the fiscal year 1997 council pursue the following initiatives.

Outreach and Dialogue

- Contribute actively to the 1996 Minnesota GIS/LIS Consortium Conference.
- Share information about council and committee initiatives and promote opportunities for dialogue and participation by enhancing the council's presence on the World Wide Web.
- Provide a forum for the discussion and resolution of issues important to Minnesota's GIS community.

- Review council activities and guiding principles to ensure that they are helping to realize a broad statewide vision and direction for geographic information.

Investments

- Develop legislation to promote funding for land records modernization.
- Examine low-cost, high-benefit data development opportunities.
- Recognize exceptional GIS projects and programs.

Data Access

- Develop policy recommendations for a statewide geographic information clearinghouse.
- Provide guidance on the Legislative Commission on Minnesota Resources clearinghouse project, if approved.
- Continue to coordinate with the Government Information Access Council and other organizations active in developing public information access policy.

Standards

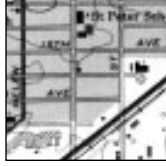
- Continue to advance statewide geographic data standards and guidelines.
- Finalize statewide data documentation guidelines and promote tools to encourage their use.
- Provide training and information about standards and technical requirements for base data sets.
- Develop a formal structure for community review of proposed standards.

Soils Data

- Develop guidelines for digital soils mapping and documentation of soils data.
- Provide guidance on the Legislative Commission on Minnesota Resources soils project, if approved.
- Evaluate digital soils products.
- Help coordinate funding for future county soils digitizing.

Parcel Data

- Document and evaluate parcel identifier issues.
- Continue to address parcel-related issues of importance to standards and investments policy.



OTHER RESOURCES

The following documents, many of which have been mentioned in this report, are available by contacting the council staff coordinator at (612) 296-1208; e-mail gc@mnplan.state.mn.us.

- Analysis of the 1994 survey of Minnesota GIS users: Adequacy of the current data and needs for new or improved data (May 1995)
- By-laws of the Governor's Council on Geographic Information (March 1996)
- Executive Order 93-17 providing for the continuation of the Governor's Council on Geographic Information (August 1993)
- Guidelines for recognizing exceptional GIS projects and programs (May 1996)
- *Mapping a Course of Action: Fiscal Year 1994 Annual Report of the Governor's Council on Geographic Information* (June 1994)
- Draft Minnesota geographic metadata guidelines (May 1996)
- Numeric codes for the identification of counties in Minnesota (April 1996)
- *Progressing on Course: Fiscal Year 1995 Annual Report of the Governor's Council on Geographic Information* (June 1995)
- Resource list for parcel data development (August 1996)
- *Standards for GIS* (September 1995)
- *Starting Points: Conventions for Geographic Information* (September 1996)
- Survey of Current GIS Data and Needs: Technical Report (May 1995)



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