NSDI GIS Workshops in Michigan

Summary Report

Sponsored by the Michigan Council of Local Governments and the United States Geological Survey

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Introduction

In communities all across Michigan, geographic information systems (GIS) are being used to create maps and manage spatial data. Cities, townships, villages and counties are using GIS for land use planning, infrastructure management, property assessment and equalization, emergency services, and much more. Nonprofit organizations, regional planning agencies, school districts, drain commissioners and many other organizations also use GIS to evaluate the spatial relationships of things, guide development decisions, and plan future investments.

In almost every case, these GIS programs make significant investments in obtaining and maintaining digital data sets, including dozens of map themes and layers. For example, geographic data can be obtained by downloading digital map files from state and federal sources, such as the U.S. Geological Survey (USGS) and Michigan’s Center for Geographic Information. However, local GIS programs are likely to make other investments in their geographic data such as correcting inaccuracies in data obtained from the state or federal government. Most local and regional GIS programs also create their own geographic information by gathering new mapped data (e.g., parcels, water and sewer lines) and contracting for additional data collection.

In aggregating and correcting existing geographic data and in sharing newly developed data, GIS programs can contribute to the value and capacity of other programs statewide and nationally. Indeed, according to the USGS and the National Spatial Data Infrastructure (NSDI), greater cooperation in data development and error correction could reduce individual program costs through economies of scale and improved accuracy, making all GIS programs more efficient and effective.

NSDI & GIS Workshops

This fall, the Michigan Council of Local Governments (MCoLG), joined with the USGS and NSDI to develop and conduct three special workshops on GIS data development, correction and management in Michigan. Funded by USGS Assistance Award 08ERSA0605, these workshops were designed to gather information and recommendations concerning the future of GIS and the potential for increased cooperation and data sharing among all of Michigan’s GIS programs. A key consideration for these discussions was a possible increase in the support available from the Federal government to encourage and support cooperative statewide programs that engage geographic data generators and consumers at all levels.

The three NSDI GIS workshops were promoted collectively by the Michigan Counties Association (MAC), Michigan Townships Association (MTA) and the Michigan Municipal League (MML) to encourage attendance by local government leaders and program directors who are geographic data generators and/or users. The workshops were held in three geographically dispersed locations to encourage participation by a wide variety of interests and backgrounds, as listed below.
In general, these workshops followed the same format, beginning with presentations about state and federal programs, followed by examples from local GIS programs, and ending with interactive discussions involving all workshop participants. Each workshop opened with Everett Root from the Michigan Department of Information Technology (DIT), describing DIT’s various GIS programs and objectives. Steve Aichele, U.S.G.S. Geospatial Liaison to Michigan gave the second presentation focused on NSDI’s efforts to improve data quality and availability. In each case, two or three additional speakers presented information about local applications of GIS, including effective infrastructure management, improved property tax management, and economic development.

Following the presentations (including a short lunch break), workshop participants were asked to participate in a series of breakout discussions concerning the benefits of GIS, the barriers to local GIS programs, and the opportunities for cooperative GIS data development. Participants were also asked to consider the potential for implementing a state-wide digital spatial data infrastructure.

The workshops were relatively well attended by people from cities, townships, villages and counties, including elected and appointed officials as well as staff members. Additionally, there were participants from regional planning agencies, tribal governments, nonprofit organizations and local government contractors. In general, participants in Marquette were far less likely to have on-going GIS programs within their organizations. As a result, the discussion at this site was considerably different from the others.

**NSDI GIS Workshop in Marquette**

The Marquette workshop was the first and somewhat different than the next two. Although the same general agenda and format were used in all locations, the questions presented for discussion purposes during the breakout sessions were limited by the lack of GIS knowledge and experience among the participants. Therefore, this group did not specifically address the development of a statewide cooperation in GIS data development and management. Questions discussed in Marquette were:

- *What are the challenges/barriers to local GIS?*
- *What are the incentives?*
- *What other collaborations with neighboring communities or State/Federal government have been successful?*
- *What made those collaborations successful?*

Participant responses to these questions are compiled and presented in *Appendix B*. In general, the Marquette workshop participants struck a common theme that could be
characterized by the phrase, “where do we start?” Many of those in attendance had limited experience with GIS. Two of the principal concerns expressed by these workshop participants were a 
_\textit{lack of funding}_ and a 
_\textit{lack of trained staff}_ for GIS programs.

One example of successful collaborations identified was regional health departments. The characteristics that made those collaborations successful were 1) reduced costs for the participants, and 2) collaborative decision-making among the participants. Each collaborative health department is governed by a board of representatives from each of the participating jurisdictions. Perhaps a similar arrangement could be made for GIS, through the planning regions or perhaps through MDOT offices.

**NSDI GIS Workshops in Lansing & Gaylord**

As in Marquette, workshop participants in Lansing and Gaylord were also invited to engage in breakout discussions. The discussion topics for the Lansing and Gaylord workshops were modified slightly based on the feedback from the Marquette workshop. Participants were asked to focus on four key questions:

- \textit{What are the challenges/barriers to implementing GIS?}
- \textit{What are the incentives that would matter to your organization?}
- \textit{If a statewide coordinating council were to be formed, what would you perceive to be appropriate roles}
- \textit{Who should be represented on such a council? How should it be structured?}

A complete compilation of the comments presented by the breakout groups is presented in \textit{Appendix B}. In general, the attendees in both Lansing and Gaylord were more familiar with GIS. Many of the organizations represented either had a GIS operating in their organization or were actively investigating it. Therefore, their main concerns were directed toward maintaining and improving existing programs.

Predictably, funding was identified as an obstacle to improving existing GIS programs. A few participants said that their GIS programs had been expected to generate revenue through data sales and licensing. They said that this is a significant barrier to the cooperative development and maintenance of spatial data. Apparently, this barrier exists largely because GIS and mapping are not considered ‘core’ functions by administrators and commissioners. Workshop participants said that these decision makers needed to be better informed about the economic efficiencies possible through the cooperative development of spatial data and data sharing.

There were a number of incentives suggested to encourage the development of GIS programs. Incentives emphasized by the workshop participants included educational programs, cooperative ownership of data, and economic incentives – both in the form of grants and through clearly defined cost savings.
The appropriate roles for a coordinating council divided into two general classes – technical and support roles, and policy/funding roles – centered on reducing the barriers and securing the incentives.

In all cases, suggested membership on a council was expansive, and oriented towards representing the needs of the many diverse users, and potential maintainers or funders, of geographic information. These proposed members included Federal, State, County (MAC, Roads, Drain, Equalization, Health), local (MML, MTA, assessors, roads), regional planning organizations, tribes, national guard/military, utilities, public safety, and the GIS professional organizations (MiCAMP and IMAGIN). Although there was general agreement that the individuals representing these groups should have some knowledge of GIS as an enabler of their constituents business, there was disagreement on the level of the individuals.

The functions of the council divided into two general classes – technical and policy. Among the technical functions were data standards development, data integration and quality control, coordinated purchasing/RFP development, and communication among GIS agencies statewide, including developing a state-wide project clearinghouse. These functions would suggest technical staff as the members of the council.

From a policy standpoint, the most important area identified in both meetings was to establish sustainable funding for GIS, through identifying roles and responsibilities of the different units of government, and by working with the legislature and Congress to advocate for GIS funding. Other functions include developing model ordinances, setting roles and responsibilities for various entities, coordinating grant applications, and advocating or endorsing various data standards.

Conclusions

Well over 80 people participated in the NSDI GIS Workshops sponsored by MCoLG over the past two months. The participants were clearly in favor of increasing support for GIS at the local government level. Further, there was clear support for the development of a cooperative statewide program to guide the development and maintenance of spatial data useful to GIS operators across the state.

Based on these discussions, a statewide coordinating council for spatial data development and maintenance would be beneficial to most local and regional GIS program. Further, it appears that such an effort to foster cooperation among GIS users could gain widespread support if it included participation by the user community, including local governments, nonprofit organizations, tribal governments, professional associations, and many others.
Appendix A

NSDI GIS Workshops
Sponsored by the
Michigan Council of Local Governments

Meeting Agendas

November 7, 2008 – Marquette
November 10, 2008 – Lansing
December 10, 2008 - Gaylord
Michigan Council of Local Governments
National Spatial Data Infrastructure Workshop
November 7, 2008
Marquette, Michigan

Hosted by Michigan Association of Counties

10:00 – 10:10 Opening remarks/Logistics

10:15-10:40 Michigan Statewide Spatial Information Technology Initiatives
Everett Root, Geo-Data Services Manager
Center for Shared Solutions, Michigan DIT

10:40 – 11:05 Building The National Map – Toward a National Spatial Data Infrastructure (NSDI)
Steve Aichele, Geospatial Liaison to Michigan
U.S. Geological Survey

11:05 – 11:30 Building Data Stewardship, Partnerships, and GIS Coordination at the Regional level
Ken Marshall, GIS Specialist
Western UP Planning and Development Region

11:30 – 11:55 GIS in Marquette County: How maps and geographic information help county government to run faster, smoother, and more efficiently
Bill Rowe, GIS Coordinator
Marquette County, Michigan

11:55 – 12:30 Lunch

12:30 - 1:15 The National Geospatial Advisory Committee – Promoting Federal Data Sharing
Mr. Donald Ditmar, Land Information Officer
Waukesha County, Wisconsin

1:15 - 1:30 Break

1:30 - 2:30 Break out – business activities supported by mapping; organizing statewide mapping initiatives in Michigan

2:30-2:45 Group Report

2:45 – 3:30 Closing discussion/findings
10:00 – 10:15  Opening remarks/Logistics

10:15-10:40  Michigan Statewide Spatial Information Technology Initiatives
            Everett Root, Geo-Data Services Manager
            Center for Shared Solutions, Michigan DIT

10:40 – 11:05  The NSDI and The National Map
               Steve Aichele, Geospatial Liaison to Michigan
               U.S. Geological Survey

11:05 – 11:30  Mapping enabling local government
               Jerremy Dunlap, GIS Coordinator
               Traverse City, Michigan

11:30-11:55  Mapping in County Government
            Scott Ambs, GIS Coordinator
            Jackson County, Michigan

11:55 – 12:30  Lunch

12:30-1:15  County and Local Government role in State-wide mapping
            Ms. Melissia Hinton, GIS Director
            County Commissioners Association of Pennsylvania

1:15 - 1:30  Break

1:30 - 2:30  Break out – business activities supported by mapping; organizing
            statewide mapping initiatives in Michigan

2:30-2:45  Group Report

2:45 – 3:30  Closing discussion/findings
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10:30-11:00  Michigan Statewide Spatial Information Technology Initiatives
Everett Root, Geo-Data Services Manager
Center for Shared Solutions, Michigan DIT

11:00 – 11:30  The NSDI and *The National Map*
Steve Aichele, Geospatial Liaison to Michigan
U.S. Geological Survey

11:30 – 12:00  Mapping enabling local government
Jerremy Dunlap, GIS Coordinator
Traverse City, Michigan

12:00 – 12:30  Lunch

12:30-1:15  GIS and mapping for improved property tax management
Ms. Laurie Spencer, Equalization Director
Grand Traverse County, Michigan

1:15 - 1:30  Break

1:30 - 2:30  Break out – business activities supported by mapping; organizing statewide mapping initiatives in Michigan

2:30-2:45  Group Report

2:45 – 3:30  Closing discussion/findings
Appendix B

NSDI GIS Workshops
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Summary of Flip-Chart Discussion Points
Gathered During Workshop Breakout Sessions
Interest in Sharing Services across counties – regions work as service bureaus, perhaps with Fed/MDIT/MDOT support?

Examples of successful shared service –

- Western UP Community Health and Mental Health. One department, Board of Directors from each County Board.

- Regional Planning/Economic development – central staff, directors from each member community. Each community has a voice.

Obstacles

- Need to educate County/Township boards, assessors, road commissioners, etc on efficiencies of using GIS in local government – perhaps use Northern Michigan Public Service Academy?

- Concerns about loss of control; being “told what to do”

- Although little interest from participants in recovering costs through data sales, Some expressed skepticism that county boards would accept that.

Incentives for County/Local participation in State-wide activities

- CASH
- In-kind services
  - Orthos/elevation for roads/parcels
  - Software purchase/licensing support
  - State/Fed financial support for regional resources/data
Challenges
- Funding – lack of general fund support
- Commissioners want revenue
- Administrator thinks GIS will pay for itself in revenue
- Personal/organizational agendas
- Fear of change – sheriffs
- Is GIS “extra” or a core function/education
- Balancing use of the data with funding to maintain
- Using State data locally
- Coordinating with municipalities
- Split in service centers (lack of coordination)
- Duplication of effort
- Data sharing, perception of ownership, lack of partnerships
- Lack of clarity of rights of gov’t data
- Lack of education on value of sharing data
- Lack of education about GIS among policymakers
- Lack of statewide standardization
- Lack of leadership
- Lack of educated/informed leaders and users
- Difficult to monetize savings
- Data sales
- Lack of agreement on relationship of IT to GIS/GIS to IT

Incentives to participation
- Cash – need to speak with one voice to get
- Cash – savings (e.g. reduced staff requirements)
- Economic development
- Improved security/emergency response
- Avoidance of damage or loss
- State-wide access to turn-key systems
- Change State legislation – no data for dollars
- Other (ancillary) data collected higher in chain – e.g. crash data
- Fairness of data exchange
- Better comprehensive response [to events, challenges, issues] with better info
- Better service [to citizens] across all levels of gov’t
- More sustainable economy
- Co-ownership of the data can be increased (recognition of special/restricted information)
• In kind services (mostly top->down)

Roles of Coordinating Council
• Standards development, proclamation
  o Assure access to accurate data
  o Make sure data meets everyone’s needs (BS&A is a standard)
• Coordination of grants
• Set policies, particularly at State level
• Identify roles, responsibilities, expectations of participants
• Project clearinghouse – who’s doing what
• QA/QC/Integration
• Completing data state-wide
• Advocate for/ obtain sustainable funding for state-wide initiatives
• Drive state-wide strategic plan
• Collaborative or Coordinating (need to define)
• Authority – what level, how is the council created?
• Informing legislation
• Coordinated purchasing/access
• Communications hub

Representation on coordinating council
• Federal
• State (Legislature, governors office)
• Counties
  o Roads
  o Drains
  o Equalization
  o Health
  o Assessors
• COGs/Regional planning
• CVTs
• Private (Vendor partners and others)
• Academia (Universities and K-12)
• Non-profits
• Tribes
• Associations – MAC, MML, MTA, MASB,
• Professional organizations – IMAGIN, MiCAMP
• Libraries
• Public safety
• General public
• Utilities
• National Guard/military
• Homeland Security
• All participants should have some knowledge of GIS/mapping as enabler
Michigan Council of Local Governments – NSDI GIS Workshop
Breakout Session Discussion Notes

Gaylord, Michigan
Thursday, December 10, 2008

How might GIS be used that you would consider valuable?

- Economic development
- Asset management
- Operational efficiencies (don’t duplicate efforts)
- Decision support
- Equalization studies/audits (revenue source)
- Public/gov’t access to information
- Consistent information
- Planning and zoning
- Emergency services
- Correct addressing/better accuracy
- Track housing, code enforcement, foreclosures
- Identify growth areas
- Share data with everyone
- Update local county road maps
- Medical
- Grant sources
- Census data (make census accessible)
- Provide regional context for decision making (zoning, environmental)

Barriers
- Funding
- Education/expertise
- Education of Boards, public (lack of understanding of capabilities)
- Staffing
- Current data
- Accuracy
- Lack of standards
- Sustainable funding
- Not perceived as mandated function
- Privacy and security issues
- Control of/politics of information
- Where to get the information

Incentives
- Cost efficiencies
• Access to funding
• Flexibility of system update and use
• Consistent reporting
• Easier access to information
• Revenue (tax audits)
• Records/archive management
• Collaboration across borders (GIS seems to encourage this)
• Regional support, regional partnerships
• Grants
• Better customer (citizen) service

Role of coordinating council
• Establish statewide data standards
• Coordinate training
• Liaison between local/state/Federal/other states
• Technical assistance
• Develop sustained state-wide funding mechanism
• Grants/legislation, technology fund
• Public outreach
• Eliminate barriers
• Prioritization of projects
• Establish roles and responsibilities for officials and levels of government
• Develop model ordinances/policies
• Provide purchasing consortium
• Educate boards/public
• Establish policies on privacy, security issues
• Conduct state-wide needs survey to identify local priorities
• Track technology changes
• Stop duplication of effort
• Suggest policy

Who should be represented on a council
• GIS uses
• Planners
• Educators
• Local and State representatives
• Planning regions
• Distributed, representatives from across the state
• Fed House and Senate staff
• State House and Senate staff
• Universities
• Counties
• Cities
• Townships
• Administrators
• Assessors
• Equalization directors
• Planners
• Surveyors
• Road commissioners
• Police/public safety
• Utilities
• COGs
• IT/GIS people (technical subcommittee?)
• Needs to be staffed (through State or an association)
• Making sure all concerns are addressed at the beginning is a must

How should a council be structured?
• Fair
  • (option 1) Public entity with representation from all levels
  • (option 2) private non-profit membership organization
• Should not be dominated by southern lower peninsula
• Regional (e.g. COG coordination, then statewide as intra-COG)
• Chair should rotate
• Terms (staggered, associations reappoint reps periodically)
• Publish reports, minutes, open meetings
• Should meet at least quarterly, more at start
• Filtered bottom->up through committees or state-wide associations (MTA, MESD, etc.)
• Communication is most important
• Legislation must follow needs of GIS interests
  • Accommodation
  • Participation
  • Policies and mandates