Minnesota Planning

Strategic Information Resource Plan

December 17, 1999

Prepared by:

Advanced Strategies, Inc.
3980 Dekalb Technology Parkway
Suite 800
Atlanta, GA 30340

Phone: (770) 936-4000
Fax: (770) 936-4009

1999 Minn. Laws Chap. 250
Art. 1 Sec. 11

Executive Summary

Minnesota Planning's mission is to identify strategic issues and provide the information, analysis, coordination, and tools necessary for informed decision making to guide Minnesota's future. The vision is to be a recognized leader for providing information and analysis. Minnesota Planning is an information organization.

Information is an asset that must be managed like any other asset, like cash or facilities. An important aspect of management is planning. This Strategic Information Resource Plan aligns Information Resources with the strategies and functions of Minnesota Planning. It is driven by the business strategies of the organization.

There are typically many more opportunities for Information Resources to support the business than can be accomplished in a reasonable time. Resources are limited, so tradeoffs must be made. This strategic plan identifies Information Resource opportunities, with a clear linkage to business strategy. It's a starting point for making resource tradeoffs and deciding which projects to undertake. From the Information Resource point of view, it's a question of effectiveness: of doing the right things. Going forward, this plan provides a context and framework for Information Resource funding requests on a biennial basis.

The key Information Resource themes for Minnesota Planning are:

Managing data as an Enterprise asset. Much effort is spent cleaning and structuring data from outside sources before analysis can begin. This is typically done by the team with primary responsibility for the subject area. But in most cases, data from multiple sources is used together in an analysis; for example, population, income, and crime by geographical area over time. Planning data in a comprehensive fashion will make such analyses easier to do, increase the range of questions that can be answered, and reduce the time to respond to requests.

Maximizing staff effectiveness. Information analysis is done by the staff of Minnesota Planning in the normal course of doing business, not by Information Resource professionals. So, rather than 'doing', the IR efforts here are focused on 'enabling'. This includes training users, providing effective tools, designing processes to support smooth handoffs, and providing support for information users. Challenges include motivating staff to participate in training and providing desktop applications support.

Increased communications. Technology provides new ways to communicate with Minnesota Planning's target audience and with the citizens of Minnesota. The Web allows much more information to be presented, at a much lower cost and with more flexibility. At the same time, it can gather information and feedback. The Agency can 'push' customized messages to interested parties by tracking interests and using email or customized Web pages, including managing information throughout the regulatory process. But these capabilities will require a paradigm shift from a page-oriented Web site to a data-driven Web site.

Successful implementation of this plan will require:

- The assignment of IT resources to carry out the realization efforts.
- The establishment of an Information Resource steering committee to maintain the linkage between business strategies and Information Resource efforts, and to set project priorities.

A summary of the Strategic Information Resource Plan can be found on page 17. The plan is presented by business strategy beginning on page 19, and by Information Resource element on page 51. The Appendix includes the source information used to create the plan.

Strategic Information Resource Plan

Introduction

A Strategic Information Resource Plan includes a survey of the current state of information resources, a vision of where they could be in the future, and a plan to realize the vision. It is driven by the mission and strategies of the business. Information resources should be deployed for the maximum benefit to the organization's goals.

All elements impacting the effectiveness of information resources must be planned. These are defined as follows:

IR Element	Definition	Examples
Application	Processes organized to support a business function	• Payroll • Accounting end of month closing • Email
Applications Portfolio	The organized collection of processes you have or need to run your business	• A collection of packaged software and in house written programs to track funding requests and project successes
Data	Information about the things your business deals with	• For a person: address and telephone number • For a project: total budget and amount spent so far
Data Architecture	How data is organized, and how data stores are interrelated	• Payroll data in SQL server • Customer names are linked to addresses • Data is distributed to local sites
Application Delivery and Support	How applications are created, including skills, methodologies, and tools	• Contract developers using structured analysis and design techniques write programs using the C language • 24 hour help desk
User Self-Service	What users can do for themselves, including skills and tools.	• Spreadsheet • Database reporting program • Training class in Microsoft Word
Technology Infrastructure	Computers, networks, and communications to enable and maintain the environment	• Desktop PC's connected to a server over a network • Communication line to a remote office
Socio-Political Organizational	Policies and other factors governing behavior, organization, people, and culture	• Structure of IR organization • Who creates and approved IR policies • User comfort level with computers

Background

Minnesota Planning's mission is to identify strategic issues and provide the information, analysis, coordination, and tools necessary for informed decision making to guide Minnesota's future. The vision is to be a recognized leader for providing information and analysis.

Minnesota Planning is primarily an information organization. Although it is composed of separate teams with differing expertise, goals, and sometimes funding, the teams share common processes and common Information Resource needs.

This year, there was limited funding from the Legislature for Information Resources. A Strategic Information Resource Plan will help ensure that current projects are chosen wisely, and will provide a basis for future funding requests.

Objective

The objective of this effort was to produce a Strategic Information Resource Plan. It is *strategic* in that it sets a direction by documenting the current state and a desired future state of the organization. It takes a view of the entire enterprise and links activities to the business strategies of the organization as a whole. *Information resources* means all activities that impact business processes and enterprise information, from software and hardware to people and policies. It is a *plan* in that it represents the best thinking of the organization at this time, but will evolve over time as needs and technology change.

This plan is to be used as a guide for Information Resource efforts and investments at Minnesota Planning over the next 4 to 6 years. It is intended to satisfy State requirements for a strategic direction in the deployment of Information Resources.

This plan should become a living document. The organization should review and update the Strategic Information Resource Plan on a regular basis.

Approach

The first step in the creation of this plan was to assess the current state of Information Resources, using existing documentation and one on one or small group interviews with each functional area of Minnesota Planning. This information was gathered in a series of 18 interviews, conducted from June through August 1999. Over 700 comments were collected. The results of these interviews were edited and categorized into an interim document for review. Detailed comments from the interviews are in the Appendix.

The next step was a facilitated group meeting, or JDA, to define the business strategies of the organization and to help set a future direction for Information Resources. The entire management team of Minnesota Planning participated. This group defined the strategies of the enterprise and supplied application and data needs to support the strategies. The turnaround documents from these sessions are also in the Appendix.

Deliverables

This report is the main product of the planning effort. It includes information about the business strategies of Minnesota planning and shows how Information Resources support those strategies. The information gathered was organized in a series of tables to form the core of the plan. Each table represents activities supporting a business strategy. For each activity, there is a current state, desired future state, realization plans, and the information resource element addressed.

The same information is presented again from an Information Resource perspective, grouped by Information Resource element.

The major tables included in this plan are also supplied in Excel format, so that sorting and selecting can be done to highlight various aspects.

Participants

Participants in the planning process included the management team, staff from every team in the Agency, and the IT staff.

All participants were most cooperative and helpful. Many teams involved their entire staffs in the interview process. This is a partial list of participants:

Name	Organization/Function
Marcia Farinacci	Operations
David Arbeit	LMIC, IS

Dean Barkley	Commissioner
Roxie Capiz	Administration
Tom Gillaspy	Demography
Kathy Guthrie	Publishing
Deb Pile	Local Planning Assistance
Susan Roth	Critical Issues, Criminal Justice
Mike Sullivan	Environmental Quality
Jack Uldrich	Deputy Director
Diane O'Brien	Communications
Tammy McGlone	Finance
Gregg Downing	Environmental Quality

Context
During the time this plan was being created, the Agency was working with MAD on a strategic plan. Additionally, Governor Ventura's 'Big Plan' was released. Included in the Governor's plan is a vision for the use of information and technology in the government. Minnesota Planning is a lead department for this effort:

State Departments: Best Bang for the Buck
The state must reaffirm its commitment to quality service for its citizens, with success measured by actual outcomes rather than process, and to a cost-conscious state government. Duplication of state services will be minimized wherever feasible or practical, and adequate communication between governmental units will be assured. Bureaucracy must be minimized. The use of technology will be employed to permit agencies to deliver more efficient and cost-effective services, and to eliminate redundant systems. Agencies with similar missions, or similar customer bases, will be located in common or clustered facilities to facilitate communication and cooperation. Information and technology needs will be integrated into a comprehensive plan for service provision throughout the State. Our focus is on improving the quality and ability to share information, and the effective use of technology in this endeavor. Increasing the efficiency of government, continuously increasing the quality of services, and obtaining the best value for every taxpayer dollar spent is a hallmark of the Ventura-Schunk Administration.

Lead Departments: Administration; Employee Relations (DOER); Finance; Minnesota Planning
Support: Other Department

Any business strategy changes from these efforts may (and probably will) generate new requirements for Information Resources. This plan must be reviewed and updated as business strategies are changed or refined.

Recommended Next Steps
This plan is the start of an ongoing process, which includes these additional steps:

Form a steering committee
Review and revise the plan
Prioritize projects
Estimate resources
Obtain or assign resources
Reprioritize realization plans
Schedule projects
Execute projects
Monitor projects

The Recommended Next Steps section of this report provides more detail. Advanced Strategies can provide assistance with any of these steps.

Responsibilities and Constraints
Advanced Strategies, Inc. is responsible for gathering information and documenting an initial Strategic Information Resource Plan. Information about the current state of information resources, the desired future state, and the realization came primarily from Minnesota Planning staff. The plan does not include project prioritization or detailed project plans: those are considered next steps.

As part of the planning process, we were granted access to all documentation, technology and people that we deemed appropriate. We were constrained by the time allocated to the effort and the availability and schedules of some individuals. We believe, but cannot confirm, that these constraints did not impact the comprehensive nature of the plan.

The Business Strategy Model

The Business Strategy Model is a way to encapsulate a complete definition of a business at a high level. We use this model to guide decisions on which IR projects to undertake.

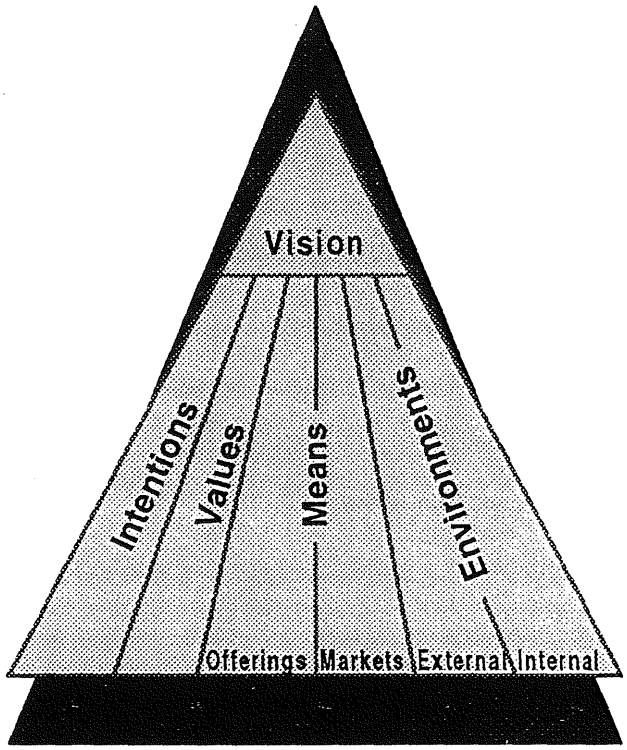
Intentions include both *aims* (what we intend to accomplish) and the *mission*, which is a summary of the aims.

To summarize the relationships:

We achieve our *intentions* by providing *offerings* to our *markets*. Our behavior is guided by our *values*. We track our *external environment*, and provide our *internal environment*.

The *vision* summarizes all of these elements.

As part of the planning effort, a business strategy model was created for Minnesota Planning.



Minnesota Planning Business Strategy Model

Updated 11/08/99

Vision
Minnesota Planning will be a recognized leader for providing information and analysis to guide those making decisions affecting Minnesota's future.

Mission
To identify strategic issues and provide the information, analysis, coordination, and tools necessary for informed decision making to guide Minnesota's future.

Aims

1. To help government, business, and citizens make informed decisions by gathering and providing input to collections of data, organizing data, providing access to data, providing analytical tools to use the data effectively, and by coordinating data across State agencies.
2. To help government, business, and citizens make informed decisions by providing information that reflects an appropriate context for and interpretation of available data.
3. To help government, business, and citizens make informed policy decisions by identifying strategic issues, developing strategic plans, and through analysis, grants, technical assistance, demonstration projects, and policy recommendations.
4. Currently, to fulfill our legislative mandate by setting municipal boundaries according to statute.
5. To provide administrative support and technical assistance to policy makers.
6. To promote effective and efficient delivery of government services by providing coordination among multijurisdictional government agencies and with the private sector.
7. To facilitate proactive responses to issues before they become critical by raising awareness, facilitating debate, and carrying the torch.

Values

We will have a can-do attitude.

We value meeting our commitments, which means that sometimes we have to say no.

We value quality.

Our responses will be timely.

Our data will be accurate.

Our services will be easy to use and accessible.

Our analysis will be fair and impartial.

Our results will be presented professionally.

Our focus will be on the future.

We value people; we value diversity; we value the personal touch.

We are here to serve the citizens of Minnesota. We will go the extra mile to be helpful and useful.

We will respect the opinions of our partners and others.

Our focus will be on service, not systems.

Means

Offerings
What are our products or services?

Menu for building products or solutions

To define a product, select at least one entry from each column and add geography and time frame.
Select multiple products to form a solution.

Access Media	Subject Area	Content	Geography	Time Frame
Publications Online Databases Workshops Free media (news about agency generated outside agency and news releases generated by agency) Informational mailings Working papers Conferences Help lines Web (comprises publications, online, databases) Meetings – working - hosted by MN Planning - hosted by others Legislative hearings Personal networking Library services Notices Public informational meetings (e.g. power plant siting, feedlot GEIS) Forums Individual letters (paper or email) Telephone calls Mass fax distribution Testimony Grants Indicators and measures Citizen participation	Criminal Justice Municipal boundaries Government structure Economics Environmental quality People Natural resources Comprehensive planning Housing Education Transportation Land use Land ownership Government finance Government spending Business Employment Health Agriculture Welfare Energy Technology Public Infrastructure The future The past Government accountability Government efficiency and effectiveness Legislation Geographic features State growth Smart growth The Big Plan Citizen participation Other (will address new subjects on demand)	Data Information Analysis Options Recommendations Policies Narrative Models Programs (software) Graphics Maps Legislation Demonstration project evaluation (solution steps) Technical assistance Coordination Grants Citizen participation Issue identification Indicators and measures		

Markets

Whom do we serve?

Governor
Legislature:
- Legislators
- Legislative staff

Judiciary
State and local law enforcement
State agencies
Local governments: including municipal, county, regional, school, water conservation; all general and special purpose districts
Planning organizations: regional commissions, metro planning, metro councils...
Education and research organizations, libraries
Businesses
Citizens of Minnesota

News media
Federal agencies
Human services organizations
Professional associations and special interest groups: non-profits: Urban League, foundations...
Internally supported task forces, advisory committees, boards
Internal: teams serve each other

Environment

External
What external entities should we track for changes in our environment? What external conditions affect us?
Geopolitical (economics, physical environment, demographics, social conditions...)
- The State of Minnesota
- The Federal Government
- Local governments
- Boundary states and Canada
- Other states, especially states like us
- Global, in so far as it affects State issues
- Climate

Technology
Business communities and non-profits (e.g. Cato Institute)

It is very difficult to predict new requests from the Governor or the Legislature.

Internal
What kind of internal environment do we create to enable all of the above? What internal conditions are key?
[We are not addressing this area for now.]

Business Functions

Business functions are a part of the organization's internal environment. Some functions will map directly to the organization chart; others will not. They provide a useful model for organizing strategic initiatives.

Primary value activities represent stages of added value during the creation of the organization's products or services. Support activities are not directly involved in the creation of products or services, but often support all stages of added value.

Primary Value Activities for Minnesota Planning

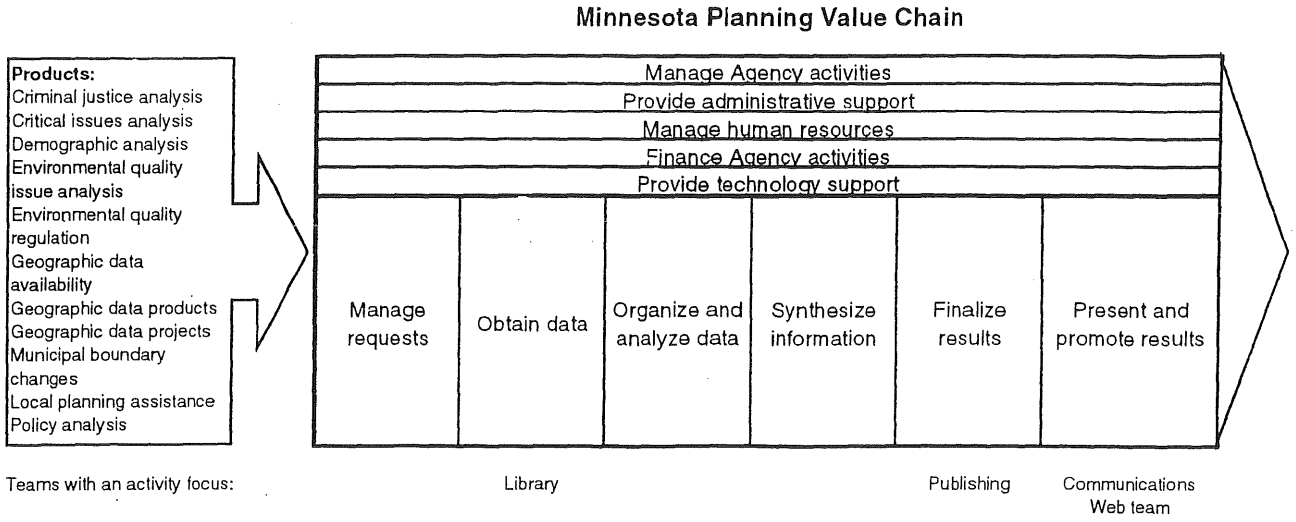
Function	Description	Examples	Includes Team
Manage requests	Receive, log, manage process	Track regulatory requests, log phone requests, decide which issues to investigate	
Obtain data	Create, find, gather	Do library research, organize interest group, get census data, do survey, create metadata, hold hearings	Library
Organize and analyze data	Format data, do analysis	Set data standards, set up data sets for comparison, perform statistical analysis, handle data quality issues	
Synthesize information	Summarize analysis; write report	Write analysis of an issue, create population pyramids, document regulatory decision	
Finalize results	Edit report, prepare graphics	Edit material for a particular audience, format for print, create Web pages, create newsletter, file legal decision	Publishing
Present and promote results	Publish, present on Web, communicate availability	Present findings to Governor or Legislators, print and distribute report, send data set to requestor, answer phone query, sell reports	Web, Communications
Support planning and coordination in other organizations	Provide expertise and funding for planning activities	Provide local planning assistance, set up a prototype Web site for land records modernization	Local Planning Assistance

Support Activities for Minnesota Planning

Function	Examples
Manage Agency activities	Strategic planning, project management
Provide administrative support	Document creation, mailings, scheduling
Finance Agency activities	Obtain grants, manage income, fund projects
Provide information services	Install and support hardware and software, manage data
Manage human resources	Administer salary and benefits

The Value Chain

These business functions can be represented visually with a value chain. This example shows the information activities of Minnesota Planning. A different value chain would be used to illustrate coordination activities.



Highlights of the Strategic Information Resource Plan

Emphasized Business Strategies: *Where can IR have the greatest business impact?*	
Facilitate communication and cooperation Identify strategic issues, then assist, demonstrate, and recommend Provide coordination among agencies Provide data, with tools and coordination Provide efficient and cost-effective services Provide information, with context and interpretation Provide reliable and secure systems Set municipal boundaries	
IR Vision: *Guidelines for applying Information Resources in the organization*	
Maximize user effectiveness Maintain a stable infrastructure Act as an enterprise resource • Streamline internal processes • Leverage the Web • Build an enterprise data architecture	
IRM Strategies:	**Realization:** *How to get from the current to the future state*
Applications Portfolio *The organized collection of processes you have or need to run your business*	Implement project planning tools Get writing/organizing/editing tools Use the Web to streamline processes, e.g. regulation Use the Web to capture citizen input
Data Architecture *How data is organized, and how data stores are interrelated.*	Create an enterprise data architecture Streamline the process of capturing and cleaning external data Manage the Web site effectively; integrate the Web into the publication process Get tools to handle text processing Set up a database for State indicators Implement clearinghouse for geographic data
Applications Delivery and Support *How applications are created, including skills, methodologies, and tools.*	Use higher level Web tools; become data driven rather than page driven Add development resources, including a Webmaster Provide desktop applications support
User Self-Service *What users can do for themselves, including skills and tools.*	Migrate selected user databases to enterprise support Communicate capabilities to users Emphasize user training Plan handoffs in the publications process
Technology Infrastructure *Computers, networks, and communications to enable and maintain the environment*	Upgrade Web facilities Support an enterprise data architecture
Socio-Political Organizational *Policies and other factors governing behavior, organization, people, and culture.*	Add a Webmaster Get resources for enterprise data efforts Get resources for applications support

Guide to the Strategic Information Resource Plan

The Strategic Information Resource Plan is presented twice, organized in 2 different ways. The first emphasizes the business perspective, and groups the activities that support an emphasized business strategy (see the consolidated list of strategies above). The strategies are in alphabetical order. A second section emphasizes the Information Resources perspective, and sorts the same items by information resource element. This information is also provided as an Excel spreadsheet to facilitate sorting and selecting items in other ways.

Definitions

Strategy	One of the organization's business strategies, as defined in the business strategy model. This may also include higher level strategies from the State.
Function	A business function of the organization. This is an activity where value is added, either in a primary role, creating the organization's products, or in a support role. This is not necessarily aligned with organizational departments.
Current State/Condition	A description of the function or need in today's environment, including an assessment of how well it is working.
Future Target/End State	An expression of how the function "should be" if it met the business need. This may be somewhat blue sky, but not unrealistic.
Realization	Steps to reach the future state. Ultimately, this will be extended to include resources and a time frame for selected projects.

Special entries

Same	The current state meets the need, and so can be carried forward unchanged.
None	No realization effort is needed; the current state meets the need.
Not defined	There has not been enough discussion to clearly articulate a future state or realization. This is normal in a constrained resource environment, where efforts must be concentrated on high priority areas. It's also possible that data gathering for this plan was incomplete.

Information Source

Most entries in this plan came directly from the staff of Minnesota Planning, in interviews or from JDA sessions. These appear in plain text. Additional entries that were added or interpreted are in *italics*.

Information Resource Categories

Minnesota Planning relies heavily on user self-service in the deployment of Information Resources. Rather than treat this as a distinct element, these activities are integrated into the applications portfolio, data architecture, and socio-political organizational elements.

Strategic Information Resource Plan by Business Strategy

Facilitate communication and cooperation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Facilitate communication and cooperation	Manage Agency efforts	Handoffs between teams may be a problem: evolved as independent operations. Have tried project management software. Timeline: decision in 12 months; lots of steps; need to prepare for board meetings.	*Project handoffs are expected and smooth.*	*Install project planning software and train users. Define and sequence project steps among teams up front.*	Applications Portfolio
Facilitate communication and cooperation	Manage Agency efforts	The Groupwise calendar function is used to schedule meetings. Some users still use paper calendars; electronic calendar data has been lost.	*Calendaring makes coordinating activities easier.*	*Expand use of calendaring. Ensure data reliability.*	Applications Portfolio
Facilitate communication and cooperation	Manage Agency efforts	There is no formal tracking of employee skills.	Skills bank would be useful just to meet internal needs. Track areas of expertise in organization.	*Develop and maintain a skills database accessible to the entire organization (e.g. SEMA4 could have this capability, but would not be appropriate unless everyone had access).*	Data Architecture
Facilitate communication and cooperation	Manage Agency efforts	Is this one or many agencies?	Agency acts as a Federation (teams are interdependent, and need each other to succeed). For Information resources, Agency acts as an Enterprise (makes decisions as a whole).	Strategic IRM plan sets a direction for deploying information resources.	Socio-Political Organizational
Facilitate communication and cooperation	Manage Agency efforts	Sit in silos. It would help to mix up physical locations and to provide open areas for discussion.	*There is synergy among teams.*	*In addition to the physical changes suggested, use electronic means to share information among teams and to stimulate discussion. This may include email news, internal web pages, and electronic discussion groups.*	Socio-Political Organizational
Facilitate communication and cooperation	Obtain data	It costs $5k per meeting to get people together. Is there an electronic substitute? Interagency committees: could use email, NetMeeting for communications. Were increasing visits to local meetings, due to more projects; must now cut back. Multiple meetings are held at the same time and resources are limited.	There is potential for technology to replace attendance at remote meetings, ranging from teleconferencing to posting exhibits on the Web to Netmeeting, where graphics and documents could be shared. Could post meeting information, and keep protected	*Explore remote meeting technology from a market perspective and to see what has been done elsewhere in the state. Do pilot testing.*	Applications Portfolio

Facilitate communication and cooperation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
			using a password.		
Facilitate communication and cooperation	Obtain data	Use clipping service for news about MN Planning; results delivered on paper.	Receive and file clippings electronically. Make available on the network, but do not push to users. Include broadcast clipping services (or download transcripts)	Subscribe to an electronic clipping service. However, there are still lots of small and specialized publications which are not on the Web.	Applications Portfolio
Facilitate communication and cooperation	Present and promote results	List maintenance is an issue, unless software is available to let the list maintain itself. Mail list management: spiff up our outreach. Someone should go over the mail lists /contact list. This is labor-intensive. Need technology solution for keeping lists up to date. MS Access is used by most of admin support. Databases include: mailing lists (including MN Milestones), publication requests, conference registrations, meeting groups, forms for phone contacts, Federal survey mailing list, Education survey for MN Milestones. Users have limited time for training. Have considered a standardized format for these databases, but the topics and contents are diverse.	*MN Planning can target delivery of information to interested parties. Have the system identify peoples' interests; cross-sell - suggest topics for a user.* *Target legislators; provide email notice on publications; IssueWatch, Criminal Justice.* *Potential application for environmental impact, as an extension to the EQB monitor: let Web users register for their area of interest. Send an email notification when something shows up in the selected area. EQB Monitor has the data: need to add geographic location, e.g. township.*	*Consolidate list oriented databases. Use automated e-mail list update/response and provide a Web page for stakeholders to register their interests.*	Data Architecture
Facilitate communication and cooperation	Provide administrative support	Groupwise Email is used a lot. Cuts down on faxes. Can response in seconds. Reduces postage. Have email lists; migrating from broadcast fax to email.	Same.	None.	Applications Portfolio
Facilitate communication and cooperation	Synthesize information	Seen as independent, with no vested interest. Output seen as credible from Legislators and policy makers.	Same.	None.	Socio-Political Organizational

Facilitate communication and cooperation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
	Manage requests	Need to gather info as a response to outside requests. Work cannot be planned, except at the capacity level. Ability to anticipate requests: where do you scan for issues? Don't have trend analysis (wide open indicators and activities). There are recurring themes to issues: brainstorm periodically with all teams: some that were identified this way are active now: affordable housing, farm competitiveness. Find local issues and encourage people to look at things from a state perspective. Also do trendspotting from email contacts, other states.	*There is a proactive response to issues; information is gathered before requests come in.*	*Develop a shared database of potential issues and ideas. Allow posting of documents and Web links. Log ideas, provide for online discussion, then use results as the agenda for a brainstorming session.*	Applications Portfolio

Identify strategic issues, then assist, demonstrate, and recommend

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Identify strategic issues, then assist, demonstrate, and recommend	Obtain data	Need a way to monitor what's going on in industries over time.	*Analysts are kept up to date on selected topics with a minimum of effort.*	*Set up Web subscription services and/or customized home pages for key topics.*	Applications Portfolio
Identify strategic issues, then assist, demonstrate, and recommend	Obtain data	Do not currently gather citizen input from the Web.	*Web based collaboration tools allow online discussion, polling, and consensus-building.*	Research Web based collaboration tools. The Delphi technique for info gathering is now Web-enabled. Provide for informal Web-based polling and 'Issue du Jour'.	Applications Portfolio
Identify strategic issues, then assist, demonstrate, and recommend	Obtain data	Do not currently conduct public forums to gather citizen input.	*Technology enables a complete record and analysis of citizen input from public forums.*	Listening Posts/Forums... audience response technology. Poll before and after the presentation. How do you get feedback? Technology to elicit and speed up feedback, make turnaround data available, e.g. on-site scanners (mark sense) to scan people's responses.	Applications Portfolio

Provide coordination among agencies

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide coordination among agencies	Finance Agency activities	Most data is secondary – doesn't originate with MN Planning. As a result, have less pull with the Legislature for funding.	*MN Planning gets adequate funding for providing data and information.*	*Emphasize the value added by MN Planning, especially where analysis crosses organization boundaries.*	Socio-Political Organizational
Provide coordination among agencies	Obtain data	There is an increasing need for linking to other states, accepting electronic versions of permits and environmental review documents. Some documents are now publicly available on other Web sites.	*Information is available and exchanged electronically in agreed-upon formats.*	Need common software or an exchange method for information from other agencies. This includes mapping software	Applications Portfolio
Provide coordination among agencies	Obtain data	Criminal Justice data quality: the challenge is getting local systems to know about the data architecture and to follow the recommended design when enhancing systems. The policy group is empowered by statute to review systems, but they're too busy to educate local communities. There is a volunteer training group to do this. Data quality relates to training, assumptions, poor attitude, and lack of knowledge. Workload is huge and turnover is high for data entry personnel. There is no feedback on missing data. People expect data errors: they make phone calls to ensure that info is OK. National Criminal History Improvement: cross justice organizations; data & reporting for local/county/state: improve quality. The quality control process is an issue. Need to interpret the accuracy of reported data.	*Criminal Justice data is accurate and requires minimal cleanup before use.* *Analysis adds value to local records; local use provides feedback mechanism for quality.*	*Likely a Criminal Justice team effort: Work with the Criminal Justice Data Group on standards and training. Provide feedback to data sources on quality issues. Analyze the cost of quality and work with other agencies to get funding to fix the problems.* *Develop a reporting mechanism for local law enforcement; show how counties compare with each other. Always send a copy of an analysis to the people who contributed data.*	Data Architecture
Provide coordination among agencies	Obtain data	Do not have access to State agency financial data due to security restrictions.	Have financial data needed to analyze State government effectiveness.	Link to Finance in terms of shared data: Clearance for our agency to use Finance data warehouse (State information system)	Socio-Political Organizational
Provide coordination among agencies	Organize and analyze data	Data is going online at originating agencies: BCA annual report: MNPlan adds annual trends. Data from other agencies is replicated here. Other agencies have not been consistent in keeping topics on the Web in the same location. Do link to sites at	*The State appears as an entity to the Web user.*	*Initiate an interest group among agency Webmasters to coordinate online data.*	Data Architecture

Provide coordination among agencies

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		the organization level.			
Provide coordination among agencies	Organize and analyze data	Arcview is going to more users, and more novice users. This creates more support calls. Will support new users to get started. Although GIS technology is growing, it is often misapplied. There is a need to educate and to provide best practices. Through exposure to other states, can learn and disseminate information.	*New GIS users make effective use of the technology. More organizations can contribute data to the GIS clearinghouse.*	*Provide education on constructing a data set and proper coding so more users can get value from the data.*	Socio-Political Organizational
Provide coordination among agencies	Present and promote results	Local Planning Assistance provides a Web hosting service for local planning efforts: users create pages, send in, we posted on MNPlan community-based planning Web site.Use the Web to share information and coordinate activities, help project communications. Host Web sites for local projects.	A standard template for hosting Web sites speeds up the process. There is standard information needed for all projects: people involved, schedules, documents produced.	Team leverages template capabilities in FrontPage.	Applications Portfolio
Provide coordination among agencies	Present and promote results	Use of Web site is limited to final format. Don't post meeting minutes. Preliminary results are not posted for feedback: Would like to do this. However, in some cases (ie airline competition), politically sensitive reports are kept confidential during development.	*Use the Web to support processes, especially where user input or feedback is needed.*	*Add interactive capabilities to Web server, including the ability to update databases for use in status tracking. Add online forums. Link discussion to documents, similar to Amazon book reviews.*	Data Architecture
Provide coordination among agencies	Support planning and coordination in other organizations	Local planning assistance does not extend to geographic data tools.	Provide data and tools to take data, evaluate it, help local governments make land use decisions: i.e., areas of prime farmland, areas subject to pollution, areas suitable for development. Provide framework for what questions to ask, what data is available, what the quality of data is, and how to factor in citizen's preferences, plus templates to fill in local information. Help local organizations to get a start with	Develop tools and training for LCMR. Get data from LMIC and others. Create templates to fill in local information. Builds on EPIC/EPPL. Also want to develop an add on to Arcview.	Applications Portfolio

Provide coordination among agencies

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
			planning, and help them to get funding.		
Provide coordination among agencies	Support planning and coordination in other organizations	MN Planning often serves as the coordinating agency for issues. Tasks: gather info, network with others. Don't often need research from the agency. Don't often need publication capabilities of Agency.	*The Web site provides a coordinating function for ad hoc groups.*	*Implement interactive Web capabilities, including scheduling and discussion.*	Applications Portfolio
Provide coordination among agencies	Support planning and coordination in other organizations	There is currently no application for program evaluation.	Program evaluation is used by the Governor to prepare for the next budget cycle. Can identify the overlapping functions throughout agencies.	Developing a new process for program evaluation. Start with a 2 page template to gather program info: send to all program managers. Includes intent, strategy, and measures. Process should include not just input from program managers: also get comments from citizens or lower level employees. Results will be used by the Governor to prepare for the next budget cycle. Want to index and cross reference program content. Select 5 keywords for each agency. Where are the overlapping functions throughout agencies? Possible solution: mind mapping.	Applications Portfolio
Provide coordination among agencies	Support planning and coordination in other organizations	After this administration is gone, want to have a process where innovation continues to flourish. Need to set up the culture and framework. Can technology help? Email flattened hierarchies. The Web allows the creation of virtual communities; this could	*Interagency communication and planning is maximized.*	Look at existing local discussion groups as a model. Implement and promote discussion groups among agencies. Include discussion groups for common functions across agencies.	Applications Portfolio

Provide coordination among agencies

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		connect people with similar functions across state agencies.			
Provide coordination among agencies	Support planning and coordination in other organizations	Need presentation materials to teach the local planning process. Do a lot of one on one training.	Could use PowerPoint materials for local planners to customize for use with commission.	Local planning team: build standard Powerpoint presentations and templates.	Applications Portfolio
Provide coordination among agencies	Support planning and coordination in other organizations	Who has to know new municipal boundaries? City clerk, county, township, state demographer, Secretary of State, MNDOT for maps. Have a list of 30 organizations for orders.	*Municipal boundary changes are communcated to all parties quickly and efficiently.*	*Design and implement a process for communicating municipal boundary changes.*	Applications Portfolio
Provide coordination among agencies	Support planning and coordination in other organizations	A majority of land records are kept manually, on paper.	LMIC has a leadership position in working with local organizations throughout the State to modernize land records.	Set up a prototype site for land records modernization. Need Relational DBMS and GIS – some of which we have. Data loading: original data collection standards need to be developed. Document management software (scanning and indexing) for hand-written records, OCR.	Data Architecture
Provide coordination among agencies	Support planning and coordination in other organizations	Further LMIC's mission by leveraging work done elsewhere. There is a Federal level interest in standards.	The mission of LMIC is optimized by coordinating with other agencies, especially Federal.	Establish a partnership with State and Federal organizations. The Federal side has more resources.	Socio-Political Organizational

Provide coordination among agencies

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide coordination among agencies	Support planning and coordination in other organizations	GIS is growing. Any major organization will have access to geographic data. Attendees at ESRI grow by 1000 per year. Universities are producing talent with good GIS exposure. Microsoft Office, Excel, free packages, free data are available. There are more State agencies with GIS experience. This growth has a dramatic effect on data needs. In the past, LMIC was the only source for data. It's now one of many players. Other key GIS organizations and their relationship to LMIC: The DNR data deli is positioned as a data provider; LMIC is positioned as a data search and mining tool. MetroGIS has developed its own database architecture for metadata; LMIC is adopting the national software standard.	*LMIC is an efficient, easy to use, conprehensive source of spatial data for the State of Minnesota. The new role is to coordinate rather than to control.*	*Complete data clearinghouse project and become a node of the National Spatial Data Infrastructure.*	Socio-Political Organizational

Provide data, with tools and coordination

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Manage requests	Geographic data: Users still require some consulting to choose the best data set. People typically read the metadata pages before calling.	*The geographic data clearinghouse is largely self service.*	*Develop a process to integrate the answers to common user questions into the metadata records. Publish examples of dataset use. Look at long term impact of clearinghouse in terms of growth in the operational support role.*	Data Architecture
Provide data, with tools and coordination	Obtain data	Data Logger captures metadata. The user interface needs work. The output is easy to convert to HTML.	*There is an easy way for non-technical users to create metadata for their data sets.*	*Replace Data Logger; improve user interface. Consider hosting on the Web site.*	Applications Portfolio
Provide data, with tools and coordination	Organize and analyze data	Applications are developed in Delphi and C++. There is not much custom programming with ARCView.	ArcView can be extended by in house developers.	Assess the need for add-ons to ArcView v8. Train developers in C++ and VB.	Application Development & Support

Provide data, with tools and coordination

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Organize and analyze data	*Applications for spatial data are custom developed.*	*Applications for spatial data are developed faster and at lower cost.*	Evaluate case tools and methodologies for working with spatial data. Once the environment is modeled, case tools allows visual development of code for spatial data processing. Investment may be substantial. Make sure the organization is prepared to accept this kind of approach.	Application Development & Support
Provide data, with tools and coordination	Organize and analyze data	Arcview vendor (ESRI) does not support software well, but there is a good user community, plus training and conferences.	*Same.*	*Continue to take advantage of all support resources.*	Application Development & Support
Provide data, with tools and coordination	Organize and analyze data	EPIC: GIS software and MN data are packaged together. EPPL software is DOS, moving towards Windows. Data includes 550 variables. New version has > 1g compressed data on CD. EPPL has a shorter learning curve compared to other GIS packages. Very easy to use. It also runs well on low end machines. EPPL: DOS based GIS engine. EPiC: client driven, Windows interface to EPPL. Technology used across agency: EPPL supports Community Based Planning tool. EQB includes EPIC for pipeline. Some baseline information is available for feedlots.	Next steps for EPIC/EPPL: Make socioeconomic CD or do Linux version of EPPL.	In process of bringing other EPPL functions to Windows. Converting 16 bit to 32 bit code. Using Delphi.	Applications Portfolio
Provide data, with tools and coordination	Organize and analyze data	ISITE creates the metadata index. This is a standard program supplied as part of the National Spatial Data Infrastructure.	Same.	None.	Applications Portfolio

Provide data, with tools and coordination

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Organize and analyze data	Preparing data for use is very labor intensive. Data transfer and conversion when getting information from other agencies – we spend time converting. There are data quality issues. Funnel information through 1 or 2 people because they do a certain process. Need to load data without reformatting and bottlenecks. We are putting too much labor into everything we collect. Changes to source data over time make it difficult to get a long term view.	Data preparation is fast and takes little effort. Data is collected in a consistent format.	1. Evaluate data mapping tools or report-scrubbers – bring report up or scan, extract data tables from them & put into a database., e.g. Monarch. 2. Provide better templates for data to other agencies so that they know what we want. 3. There are open database engines that can be used to extract data from multiple data bases. Something like Datanet but without the additional massaging of data that it takes to bring outside data into Datanet. Develop and promote data standards.	Data Architecture
Provide data, with tools and coordination	Organize and analyze data	Data for the American Community Survey is currently not available.	Data for the American Community Survey is available. New, covering 3.5 m households. Will be phasing in to smaller and smaller geographic/population units.. Expect the patter of data usage to changes to continuous demand (old model: new info every 10 years).	*Create metadata, database, and analysis applications for the American Community Survey.*	Data Architecture
Provide data, with tools and coordination	Organize and analyze data	Data: Census microdatabase: Includes a sample of individual level data with individual identifier stripped off.. Size is 120-130mb for each year.	*Census 2000 microdatabase is documented and available, along with standard analyses.*	*Update metadata, databases, and analysis applications for changes in 2000 census.*	Data Architecture
Provide data, with tools and coordination	Organize and analyze data	Geographic data is currently stored in a proprietary relational format supplied by ESRI as part of the Arc... software called 'Info'. The industry is moving towards using standard relational databases. There is a risk that the internal Info database may go away.	*Geographic data is stored in a way that supports the expected need for sharing, size, and frequency of access.*	Need to decide if geographic data should be migrated to an enterprise RDBMS. Deciding factors include the size of the organization and the need to share data between users concurrently. There is a significant additional cost for the database software, training, and ongoing support.	Data Architecture

Provide data, with tools and coordination

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Organize and analyze data	LMIC acts as a clearinghouse today. It publishes a paper based data catalog and participates in the National Spatial Data Infrastructure. Metadata exists for data sets and is searchable from the Federal network. Low tech tools work great, too: evolving a paper catalog of data sources. This can be extremely helpful. An accurate description of variables in a 3 ring binder is a key tool. Data standards issues: 1. Documenting and cataloging data sets. 2. Definition of individual elements. 3. Accuracy of geographic location. 4.Getting consistent keywords, themes, and accuracy between different data sets. Need standards for data and keys for Datanet and the Info RDBMS. The agency reward system does not extend to data or metadata. There are few resources to do this right.	*The best data set for a query is easy to find. The clearinghouse will index GIS data that is distributed; local storage will be available if preferred by the provider.* *Promote the use of data by publishing user profiles: show how data is used with models and examples.*	*Continue development of metadata for internal and external data sets. Help define specifications for accuracy. Provide models and examples for data use. Evaluate and secure resources needed.*	Data Architecture
Provide data, with tools and coordination	Organize and analyze data	As more data is collected, there are more opportunities to compare data sets. For EMS study, need data from many sources. In the past, the soil erosion model came from LMIC. Now data is more distributed. Think of data standards as providing an enterprise infrastructure. Content is the big issue; physical format is less of an issue (conversion programs are avaliable). It's very important to provide the glue for content. It is easier for a single organization to solve its particular problem (roads, pipeline, crime) than to set standards that allow the comparison of diverse data sets from different organizations.	*Data standards ensure separate data sets can be used together*	*Work with standards bodies to define common field definitions. Work with data source organizations to convert to new standards.*	Data Architecture
Provide data, with tools and coordination	Organize and analyze data	There is a backlog of data documentation to be done.	*Data documentation is complete.*	*Obtain resources to document data. Make documentation a requirement of all projects. The new release of software from ESRI may help: it updates some metadata on the fly.*	Data Architecture

Provide data, with tools and coordination

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Present and promote results	Distributed data centers at local libraries provide a help line and a point of access to the Web site. Librarians are trained to answer questions; they handle 30k-60k questions per year and provide information on CD, published volumes, and online access. The librarian is an information navigator.	Same.	None.	Applications Portfolio
Provide data, with tools and coordination	Present and promote results	Datanet provides summary statistical information on the Web.Datanet supports Criminal Justice, Demography, and Critical Issues (Children's Report Card). The focus is on the public, decision makers, and libraries rather than researchers. Have 1500 users; target the average user. Refer custom runs to the University. Datanet gets 27000 hits/month on the Web. This is 30-60% of total Web site hits. The underlying data for Datanet is stored on a Unix server running Codebase (dBase). Census data was in dBase format. Scrubbing is done in dBase. Source data is in many different formats and typically needs to be cleaned. Have problems with old datasets and updates: the formats change from one run to the next. The dBase files supporting Datanet are summarized to improve performance. There is one database per Datanet query. Would like to be able to compare separate Datanet datasets with each other. Need to keep data more current; update all annually rather than as available.	*A Web based user query tool allows users to analyze and compare data in a more flexible, visual way.* *Move toward visual modeling. What are the implications are of certain policies? Use visualization tools. See Salt Lake City model – snapshot of the future. See also St Paul Neighborhood Plans. User interaction: online simulation. For planning information – multiple options presented and elicit input, then show results visually (use for Smart Growth)*	Evaluate using a Web enabled OLAP package for presenting data. OLAP = On Line Analytical Processing: what-if modeling software, e.g. a spreadsheet-like approach to data that allows drill down.This would eliminate development time spent on the user interface; developers could concentrate on the data instead. Include visualization tools. Datanet is adding city level data; can sum multiples; have multiple years. Adding school districts. Migrating separate Web pages to Datanet for better integration. Want to add the ability to query online Milestones by county. Looking for data analysis to do comparisons between indicators.	Applications Portfolio
Provide data, with tools and coordination	Present and promote results	There is a national network of gateway sites and data nodes for geographical data. LMIC participates as a node, and encourages other MN organizations to participate.	MN provides a node and a gateway site to the National Spatial Data Infrastructure.	LMIC is developing a MN gateway.	Applications Portfolio

Provide data, with tools and coordination

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Present and promote results	Mapserver is used to create maps for the Web (e.g. Datanet). It reads ArcInfo files. Capabilities are adequate for today, but there is concern about limited support. The agency has a license for ESRI's Web product if needed. Server: P 450. Linux/Apache + Mapserver software developed under a NASA grant + DNR and LMIC enhancements.	The Web mapping tool is fast, well supported, and easy to implement for new datasets.	Do R&D on the best tool for presenting geographic data on the Web: Mapserver or ArcInfo Web tools.	Applications Portfolio
Provide data, with tools and coordination	Present and promote results	Have a good Web connection: speed is OK. The Web server runs OK except during maintenance. The Web server is a 486 running Linux OS and Apache Web server. Web upgrades have taken a back seat to desktops .Do not anticipate any capacity problems from today's usage, but a change in the way the server is used, for example from new applications, could cause an overload. Would rather upgrade before problems occur. Changes to be aware of: plan to do a MN specific data set from the Census. This will increase load on the Web site substantially. The first large scale data will be available March 2001, and includes redistricting.	Web server capacity meets anticipated demand. The clearinghouse serves up larger data sets, with very high bandwidth. Today's customers are GIS professionals. The model of computing will go towards providing services rather than raw data, for example, creating maps on the fly. There will be more consumer oriented products.	*Upgrade server resources to handle new applications.*	Technology Infrastructure
Provide data, with tools and coordination	Synthesize information	Census Bureau will produce only one report for the State, plus CD. Will offload all other queries to the new federal system 'fact finder for the nation'. Demand is too great to handle this volume at one site.	Standard Census reports for 2000 are available for the State.	Demography team: although there is no additional funding, the State will have to fill in the missing reports.	Applications Portfolio

Provide efficient and cost-effective services

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide efficient and cost-effective services	Finalize results	Web: not sure we have anticipated long term needs. Why develop in house if you can buy tools?	*The applications delivery strategy includes criteria for evaluating build vs buy, especially costs over the life of the application.*	*Periodically scan the market for new applications and development tools. Replace custom development with standard applications, or redevelop in an environment that is easier to support. Example: replace Datanet*	Application Development & Support

Provide efficient and cost-effective services

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
				with an Web enabled OLAP package.	
Provide efficient and cost-effective services	Finalize results	Big issue is time [from request to publication]: need to be fast.	*Delivery times are reduced.*	*Start a project to look at the information analysis and publishing process as a whole. Using the manufacturing analogy, you can do these things to get speed:* *1. Optimize individual steps with tools and skilled people* *2. Design an integrated process with minimal steps* *3. Streamline handling (e.g. electronic work flow)* *4. Create components in advance, and assemble on demand*	Applications Portfolio
Provide efficient and cost-effective services	Finance Agency activities	MAPS (MN Accounting and Purchasing System): This version has been running for 4 years. Handles all accounting and procurement (these are organized in the system as separate functions). Includes annual budgets, all State spending, vendor payment, program budgets, cash receipts, and contracts. Standard and Crystal reports are available. Can output report data to Excel (2 managers use).	Managers can analyze monthly budgets in Excel.	More would likely use Excel budgets if trained; can help users set this up. This would save work: 2 hours/month to generate emailed reports.	Applications Portfolio
Provide efficient and cost-effective services	Finance Agency activities	SEMA4: in use for 4 years. Covers payroll, HR, and expense reporting. Has an overnight interface with Maps: salary projections, expenses roll up.	Same.	None.	Applications Portfolio
Provide efficient and cost-effective services	Finance Agency activities	BBS Biennial Budgets System from the Department of Finance: 2 years old. Actual data loads up from Maps, then users can input new spending plans. The agency can define the format: level and sorting. Planning presents as a whole: details are in Maps but roll up in total.	Same.	None.	Applications Portfolio

Provide efficient and cost-effective services

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide efficient and cost-effective services	Finance Agency activities	The financial environment is one of constrained resources. Agency priorities effect everyone's budget. Reallocation is common.	*Resources are constrained, but plans provide a way to judge the impact of resource reallocations.*	*Install project planning software and train users. Allocate resources to projects. If reallocations are made, the impact can be quantified in the project schedule.*	Socio-Political Organizational
Provide efficient and cost-effective services	Manage Agency efforts	Need to track progress of projects. Tried a form with checklist to track milestones. Now doing a list to show all projects. Get quarterly project progress reports. Need to review and approve plans at the end. Need file system to collect documents. People hold on to data and do not share. Need to build a foundation for review. After publication is complete, a project is not done – there is presentation work, Web work, PR - visuals for author presentations; media plan, promotional flyer, brochure – we don't take these into account very well	Planning takes into account final date, length of front-end work, changing priorities, available resources, and all deliverables. Completion dates can be forecasted accurately.	*Install project planning software and train users. Use to ensure that all steps are planned and to increase visibility of project status.*	Applications Portfolio
Provide efficient and cost-effective services	Manage Agency efforts	People feel constrained by the limited budget. Haven't thought about ways the future could be different.	*People think in terms of achieving the Agency's intentions, and resources are allocated to maximize the contribution of IR.*	*Involve staff in the planning process. Encourage and capture good ideas, even if they can't be implemented immediately due to resource constraints.*	Socio-Political Organizational
Provide efficient and cost-effective services	Manage Agency efforts	There is a perception that LMIC is separate from the agency. Since LMIC provides IT for the agency as a whole, is this a potential problem?	*IT is positioned as an Agency resource; users feel they have equal access.*	*IT participates in analysis and design of Agency business processes, working together with users; there is involvement beyond basic support.*	Socio-Political Organizational
Provide efficient and cost-effective services	Manage human resources	Users want training. Need to get new employees up to speed. After a short introduction from network support, most information comes from coworkers. Student workers need more expertise but turn over faster. One team has had 6 different support people over the past two years. High turnover increases the need for staff training and support. Use New Horizons for training; find it helpful.	*Training for new users is quick and efficient.*	*Standardize and package IT training for new users, including, for example, using videos available in the Agency library. Provide a technology 'mentor' for new users.*	Socio-Political Organizational

Provide efficient and cost-effective services

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide efficient and cost-effective services	Manage human resources	Telecommuting infrastructure: now have 4 modems at 28.8. Telecommunications policy is recent. Users can transfer files and use Groupwise or Netscape; they cannot run network applications. Some users have remote control. There are 20 users on the telecommuting list, but very few have a schedule for work at home.	*Telecommuting is supported for an expanding user base without undue stress on users and support staff.*	*Upgrade modem speeds to 56k. Set standards for client machines; will user-provided machines be supported? Train users for telecommuting: set expectations and limitations.*	Technology Infrastructure
Provide efficient and cost-effective services	Obtain data	Web browsing is used for research on other states, finding zip codes, hotels, airline flights. User share info on useful Web functions. There are phone lists in the Intranet. Use Web to track legislation, including State and Federal.	*Users share useful Web capabilities.*	*Add an intranet page to consolidate links to useful Web information.*	Applications Portfolio
Provide efficient and cost-effective services	Provide administrative support	Would like to fix the capability to fax from desktop, especially when sending to a large number of people.	Users can fax documents from the desktop via the server.	Fix network fax capability.	Applications Portfolio
Provide efficient and cost-effective services	Provide information services	Computer consultants are used for server issues, upgrading RAID array: Novell experts.	*Use third party help in areas where specialized knowledge is needed.*	*Continue making in house/outsource decisions.*	Application Development & Support
Provide efficient and cost-effective services	Provide information services	Desktop suite: MS Office: Word, Access, Excel, PowerPoint. Do not take a hard line on standards, but users must have a business case to deviate.	*Users are on a current version of desktop software. Use of alternate software is minimized.*	*Software is current. Planning should begin for upgrading to the next version.*	Applications Portfolio
Provide efficient and cost-effective services	Provide information services	Weekly meetings set policies: 3 network support people plus Marcia (people perspective) and David (technical perspective).	*Policies are well defined and communicated throughout the organization.*	*Add user team representatives to planning where users will be affected. Make policies available on the intranet.*	Socio-Political Organizational

Provide efficient and cost-effective services

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide efficient and cost-effective services	Provide information services	In good shape for hardware and standard desktop software. Need to process large data sets: 100mb. Have state of the art desktops. Applications are current. Equipment status: in better shape now than ever. Agency is looking at the big picture. Now going from Unix to PC platform. Have high end plotters. Network for sharing data works well. Disk space is not an issue now.	*Hardware and software stay current with industry standards.*	*Continue to maintain the processing infrastructure. Will constantly need more communications bandwidth and processing power. Have been successful in bringing new machines in to GIS users first, and rolling older machines to other agency users.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Ultra Sparc server was once used for all geographic processing. Now day to day geographic processing runs on local NT, and the machine functions as a file server.	*Get maximum value from hardware, then standardize environment.*	*Migrate to NT server environment when it is time to replace this machine.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Desktop OS: For most users, Win 95/98. For power users (geographic data), NT. Desktop OS inventory: Win 95/98: 70, Win NT: 15	*Desktop OS is current, and a minimum number of versions have to be supported.*	*Keep desktop OS up to date.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Server OS: Novell version: 5, Solaris version: 2.6 and 2.7, Linux version: Red Hat 5.2 and 6.0.	*Server OS versions are current.*	*Keep server OS versions current.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Software inventory: Office users: 85, Groupwise users: 85, Arcview users: 8.	*Desktop software is current.*	*Keep desktop software current.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Desktop PC counts: P133: 19, P200: 28, P350: 8, P450: 30 (TOTAL=85). Laptops: P75: 1, P200: 3, P300: 4, P400: 1 (TOTAL=9)	*Desktop and laptop hardware is current.*	*Keep desktop and laptop hardware current.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Server & OS inventory: 1 Novell server: file sharing and email: office use. 1 Unix (Solaris) server: file sharing for geographic data. 4 Web-related servers: Web pages (Linux), mapserver (Linux), dBase files (Unix), Development (Linux).	*Servers provide a reliable and efficient processing infrastructure.*	*Evaluate need for a database server and Web applications server. Map server may change if Web mapping software is changed.*	Technology Infrastructure

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Finalize results	Publishing software includes: Adobe Acrobat. Create .pdf versions of documents for the Web. PageMaker. Normal page layout tool. FrameMaker. Page layout: better tables than Pagemaker (not common). Macromedia Freehand. Main graphics program. Adobe Photoshop. Web graphics: pixel based graphics and photographs. Transferter Pro. File translation. Adobe Illustrator. Used for graphics created outside the agency; also for Arcview. Constraints in process: Graphics: some staff generate their own, some are done by support staff. Work gets transitioned to different people with different tools. Can formats be imported? Rework involved. Need compatible set of tools. Document compatibility: Different tools are used to create the document. Word is the standard and works well. Other programs have translation problems. Graphics are generally recreated for publishing. Can't handle Freelance. Standards are not strong.	*There is an integrated set of publishing tools, and planning anticipates any issues.*	*Evaluate the publishing tool set. Reduce the number of tools used, and test compatibility.*	Applications Portfolio
Provide information, with context and interpretation	Finalize results	Use Netscape Composer and MS FrontPage to create Web pages, such as newsletters, press releases, and .pdf's. Pages are usually edited before posting.	*Web page development is as routine as developing a word processing document.*	*Pick the best tool for Web page development, then provide training, templates, and support.*	Applications Portfolio
Provide information, with context and interpretation	Finalize results	PowerPoint demand is growing: just started learning: doing templates. Do lots of presentations for the public. Will be teaching users how to present. Users do their own content. Currently, it takes hours to file transparency overheads.	*Users only need to be concerned with content when developing presentations.*	*Continue development of templates, and make users aware of them. Develop an electronic library of standard slides.*	Applications Portfolio

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Finalize results	Editing process: electronic vs hardcopy version – want to track what the editors changed.	*Editing time is reduced by exchanging documents electronically. Changes are documented.*	Collaboration editing tools: available in Word, other commercial products. There is a differences of opinion internally on whether this works within the agency (KG, TG). May work one-on-one between writer and editor, but not as groupware	Applications Portfolio
Provide information, with context and interpretation	Finalize results	Do a lot of repurposing for print and Web; can't use the same document for both. Have lots of issues with colors and graphic formats. Use .pdf for print-like docs. PDF is OK except for graphics size: often pull out graphics and add link in document. Colors are different; may need to change to allow pdf to print like original document. For larger documents, may want to break into sections for the Web. Changing printer drivers can cause text to reflow. Resolution may be different with outside printers.	*The print version and .pdf version of a publication are produced in a single step without rework.* *There is a standard process for producing Web 'extras' like an abstract, hyperlinks, etc.*	For creation of .pdf's: challenge the assumption that the print publication and the Web publication are two separate documents or projects. Find a tool that supports both easily. Conversely: Web work is different from publications. There are new pieces that need to be added – including abstract, etc. Don't think of it as the same medium as publication. Develop guidelines for communicating effectively using the Web.	Data Architecture
Provide information, with context and interpretation	Finalize results	Need to manage maps and logos. Need multiple formats. Use a central shared directory.	Standard graphics are easy to find and use.	*Make sure the filing system for standard graphics is easy to use. Reduce the number of formats if possible (possibly related to reducing the number of publishing tools)*	Data Architecture
Provide information, with context and interpretation	Finalize results	Have a planning meeting before a project starts to set software standards, graphics requirements, and distribution. This solves a lot of problems. But these meetings are not always held, or held too late in the project. Planning is especially important with outside sources of graphics: need advanced planning to test files. Publishing team pushes for maps and graphics	*There is an integrated set of publishing tools, and planning anticipates any issues.*	*Always have a planning meeting with Publishing up front: once aware of findings, get ready to plan output.*	Socio-Political Organizational

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Finalize results	Training would help in speed of graphics. Compatible programs help transfer and avoid rework. Writer needs to play with variations to get optimal (prototype). This may be a different tool from publishing.	*The originators of graphics create a version that is very close to final form, reducing rework.*	*Train users in graphics requirements and in the use of graphics tools. Increase communications between originators of graphics and those who create the final version. If possible, use the same tool to avoid rework.*	Socio-Political Organizational
Provide information, with context and interpretation	Finalize results	Lots of user training is needed for using the Web and developing Web content. Users get frustrated trying to find information. Issues: what part of the Web are you searching; definition of search terms.	*Web research and Web development become part of the user's standard skill set.*	*Add Web use and page development to standard training offerings. Provide incentives for users to attend classes.*	Socio-Political Organizational
Provide information, with context and interpretation	Manage requests	Help line calls: 10k/year. Track statistics on calls, publications sent, referrals to other agencies. Currently, hospital wants statistics for funding request. Have some standard information packages to answer common questions.	Help line maps subject areas where there are a lot of calls, and builds a knowledge base. Produce standard info packets for 50% of calls. Give out Web addresses, post FAQ's on the Web.	Integrate the various tracking and knowledge base efforts going on currently. Provide a user self service capability for information.	Applications Portfolio
Provide information, with context and interpretation	Obtain data	The library participates in PALS, which keeps bibliographic records, patron records, and circulation records. It also allows interlibrary loans (in and out).	Same.	None.	Applications Portfolio
Provide information, with context and interpretation	Obtain data	1. Do not routinely collect and manage original data; instead, make use of other agency's databases. Would like to have access to this data on the Web, but it is not available. Could benefit from knowing what data is available within the agency. How do you know what's available and how to use it? Where do you go for help? 2. Critical Issues must handle a variety of subjects, data sources, and clientele. Need flexibility and the ability to find new data sources. 3. Internal research: The most frequently used research is electronic, though as print	*Information is easy to find, regardless of its format (paper or electronic) or location (inside or outside the Agency).*	*Continue to train users in search techniques and data sources. Complete electronic cataloging of library holdings. Stay abreast of new data sources, and catalog them in metadata records. Coordinate metadata efforts with library standards.*	Applications Portfolio

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		collection grows, the physical collection is gaining in importance. The librarian does research for users. Resources: OCLC first search, Dow Jones, Lexis/Nexis. Fee based services are kept in house to control cost. 4. If people only do research on the Web, data is less complete. May need additional training on the library system for users to be comfortable and to encourage use.			
Provide information, with context and interpretation	Obtain data	Used GPS to gather CFL and pipeline data. The accuracy of GPS data varies.	*Location data is highly available and very accurate.*	*Continue to gather data using GPS. Promote standards for accuracy.*	Applications Portfolio
Provide information, with context and interpretation	Obtain data	There is very little documentation. For example, there is no description of the data set for demography on the Web. Don't have a library or indexing function for data that is available. Sources are project specific. Sources of data include Dept of Labor, Census, Dept of Commerce Bureau of Economic Analysis, IRS, building permits, survey of nursing home populations, chambers of commerce, cities, townships, Dept of Health. It's difficult to find the right source for data: State or Federal, PCA, DNR, EPA, Economic development. The clearinghouse concept does not extend beyond geographical data. It does not include other data at MN Planning, like demographics. It also does not include finished products such as maps.	*There is complete documentation for data sets, promoting reuse.*	*Leverage the metadata and clearinghouse efforts of LMIC for the rest of the Agency's data. Standardize data platforms and formats as part of an Enterprise Data Architecture.*	Data Architecture
Provide information, with context and interpretation	Obtain data	No data collection from wind farms.	Will be collecting production data from wind farms. High volume is expected: there will be several hundred turbines and frequent samples.	Create a database for wind farm data, using a platform that can accommodate high volume.	Data Architecture
Provide information, with context and interpretation	Obtain data	Much of the data needed for analysis is text-based, on paper.	*Data is in electronic form for easy analysis. There is no need to rekey data.*	*Set up scanning and OCR capability to convert paper based data to electronic form. Work with data sources to get data in electronic form.*	Technology Infrastructure

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Organize and analyze data	For statistical analysis, SPSS is used, primarily because it handles many data formats well. Its internal format is dBase. We don't have the most recent edition (e.g. publish results directly to Internet). The less additional processing needed, the better as far of speed and accuracy of going to the Internet.	Analysis and Internet presentation is seamless: no need to transfer results to different software.	Upgrade SPSS to most recent version, including Internet capabilities.	Applications Portfolio
Provide information, with context and interpretation	Organize and analyze data	For Demography, the standard mapping program is Atlas. Have discussed changing to Arcview, but this department usually has only one layer and finds Atlas easier to use. Both packages are now owned by the same company - ESRI.	Provide needed mapping capabilities to users without extra support or conversion issues.	Evaluate software and training issues to see if conversion to a single mapping program is worthwhile.	Applications Portfolio
Provide information, with context and interpretation	Organize and analyze data	For database software, Demography is using Access primarily. However, Approach handles long and broad files better than Access (200-300 data elements per record). Typical usage: extract a subset of data and analyze.	*The standard database solution handles databases of any size and complexity.*	*Evaluate a server-based database solution for efficient processing of large databases. Standardize the front end application.*	Applications Portfolio
Provide information, with context and interpretation	Organize and analyze data	GIS users run ArcInfo and ArcView on local NT workstations. Many other planning organizations use Arcview to manage information and display data on maps. No mapping software has gotten easy enough to use to support the casual user. Attempts to set up Arcview for casual users have not been successful. Most casual needs are supplied by going to power users for help	Same.	None.	Applications Portfolio
Provide information, with context and interpretation	Organize and analyze data	There is no way to check the validity of land area descriptions.	Descriptions of land areas are validated; errors are corrected.	Add Survey Coordinate Geometry software to check for legal closing of legal descriptions (COGO). Also good for redistricting.	Applications Portfolio

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Organize and analyze data	Criminal Justice data and source: 1. Offenses known and reported, arrests and apprehensions. Includes count monthly by offense. Incident may contain multiple entries, one for each offense. Source: BCA. In FBI format. 2. Computerized Criminal History: gross misdemeanor and felony w/fingerprints. One record per offender, with multiple counts if needed. Related suspense file contains records without matching prints (a frequent problem). Source: BCA. 3. Supreme Court juvenile database through 1997. Secured: permission required to access. 4. Dept of Corrections: Summary records of probation and prisoners. Annual. 5. State facility information: annual summary (not a database). 6. Justice expenditures for county: includes costs for sheriff, jail, probation, judicial system. Get data annually in summary.	Same.	None.	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	There are lots of unique projects in sustainable development. Need to integrate economic, population, and geographic data. What is the environmental impact of industries you are helping to develop? Systems are not integrated. Need to track cumulative impacts of (multiple, independent) projects. Need to balance immediate needs vs developing a base of information. "Integrated access to environmental information" is not sponsored here. Pipeline reviews are done by EQB. Other environmental reviews are distributed: would like to track the accumulation of all projects. Gather data how?	*Provide comprehensive environmental impact of projects in a selected area.*	*Determine sources of environmental impact data and a standard way to collect data. Collect data into a common format and provide a means to analyze.*	Data Architecture

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Organize and analyze data	It is difficult to detect new hot issues and to provide a quick response. What is the potential for mining data and putting out short reports for the public? Could use a way to uncover trends without asking a particular question.	"Engage the public in thinking about the future of the State". An extension of Milestones.	*Consider the potential use of data mining tools when developing an Enterprise Data Architecture. Evaluate tools.*	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Filing is an issue: there is no protocol for shared data, and no good hardcopy filing system. Individuals do their own filing. To share files, use attachments or G drive. Drive is structured by team. Files are relatively easy to find.	*Documents are files consistently, and are easy to find and share.*	*Provide training and standards for filing. Assess potential for paper/document management software.*	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	There are separate collections of books/reports within the agency, including Demography, Criminal Justice, EQB, and Local Planning Assistance. There is no capability to search and retrieve items from these separate document stores.	All the library contents are indexed in one system, even if the materials are in distributed locations. Local Planning Assistance is already integrated into PALS; EQB collection is currently being cataloged.	For library: catalog all holdings in PALS.	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Need to manage and archive data. Data can get lost if it only exists on a local machine. There is generally less ownership of data because it comes from an external source. Role in archiving information: this is a legal requirement that has not been closely managed. Needed materials are not cataloged. When information gets subpoenaed, (2 in the past year), need to find, box and ship materials. They don't get integrated on return. Need procedures for archiving data for state repository. Project information is separate; some is confidential and requires separate handling.	*Manage and archive data in accordance with State guidelines.*	*Provide training and standards for data management and archiving.*	Data Architecture

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Organize and analyze data	An internal data architecture is needed [for geographic data], including base maps, naming conventions, and organizational structure. Users should decide what's in and what's out. User struggle to know the data exists. Organizational attempts have not led to efficient mapping. The limitations aren't technical. Investment in data resources will lead to better productivity from people doing maps. Relationship between LMIC project and data services: both create data and rely on existing data. Looking forward to the day when it's easy to pull data from the clearinghouse, including water, roads, county boundaries. Today data is scattered; there are multiple sources. There are also some scale issues.	An internal data architecture is in place, including base maps, naming conventions, and organizational structure. Investment in data resources results in better productivity from people doing maps.	The intent is to standardize base maps from digital data on various scales using consistent colors and symbols. (This does not mean resolving style issues; styles change). Start with big demand data sets and make as accessible as possible. Include deviations if needed for a good reason, but in general spend less time on derivative products. Use metadata to describe duplicates and advantages.	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Projects tend to keep their own data sets and use them between projects. There are issues when users work with copies of the enterprise data. 1. If errors are corrected, they don't always get back to the enterprise copy. 2. Copies need to be managed and archived at the end of the project.	Have documented data sets in a common catalog.	*Analyze reasons for keeping copies of data, and address. Communicate the long term value of enterprise data.*	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Maintain a collection of local government plans and ordinances. Need a good system to capture updates. There are 87 counties, 800 cities, and more than 1,500 townships, although not all plan. This is a separate collection within agency.	*Collection of local plans is complete and up to date.*	*Develop update process for local plans.*	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Text based information is difficult to manage.	There is full information management (e.g., text management) of all information that comes in on an issue. A 'Meta-media search engine' does content analysis.	Evaluate and implement technology to do text scanning and indexing automatically (some is manual – like creating the abstract).	Data Architecture

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Organize and analyze data	Today, data exists in 'silos', e.g. it is not easy to use separate data sets together. Demographics compares databases from multiple sources. For example, Census estimates vs school enrollments. Unlike other agencies, Demographics maintains history. For example, the Health Department collects data but does not keep history. Time series is critical.Annual problem: timing reference of data: fed fiscal year, state fiscal year, calendar year, census year, census estimates year. Also, some data is point in time vs annual total (population vs births).	There is an Enterprise Data Architecture for the Agency, including data standards and technical compatibility. The standard dimensions of location and time are handled consistently across all subject areas.	Define an Enterprise Data Architecture. Decide on a logical place to start out, e.g. county DB. Must be application-independent. Standards include some technical compatibility. One place to start: what data is used the most? Suggestion: Census time series information – temporal view of census data. Define standard data + geography + time. Tools at ESRI conference could create an object model of information design; model LMIC's data holdings.	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	What do we need to know about other agencies, and how do we track these? E.g., strategic plans, etc? Cross-reference agencies dealing with water? Organize by functions . . . this is a different kind of database. Use to determine the "best bang for the buck". There is a basis for this in the Minnesota Handbook – now available on CD - published by Dept of Administration. State programs and projects need to be on the radar screen. We have a difficulty defining indicators and finding data to support them. Need to define what indicators are. How do you collect indicator data?	*It is possible to assess government effectiveness across agencies, and to identify duplicate efforts. This includes a multi-year and local Milestones database.* *Dashboard software displays the status of key indicators.*	*Develop a data architecture for tracking information about State agencies, including strategies and indicators. Collect and report data.* *Evaluate goal tracking and dashboard software to display key indicators.*	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Security with private data: new: juvenile data on Jaz drive is kept off net: need permission from the Supreme Court to access. Move secure data on floppy.	If justified, become part of the statewide secured network.	*Contact planning group for the secured network. Analyze the benefit of improved data access vs the cost of communications and security.*	Technology Infrastructure

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Organize and analyze data	For performance, users move data to local drives for analysis; including Access, Approach, SPSS, and mapping. SPSS runs against a local database running on NT standalone. Performance is maxed out. Full data set includes years 85-98. When possible, extract counties or some other subset for analysis.	*Power users can run analyses efficiently.*	*Extend high speed network connections to the desktop for power users. Allocate newest PC's to the heaviest users.*	Technology Infrastructure
Provide information, with context and interpretation	Present and promote results	Datanet development tools: GNU C, VI. Use Codebase to access dBase format files. All interactive code is CGI scripting. Datanet: constraining factor is human resources; technology is OK. Would like 1 or 2 more programmers, especially for the Web. Now done with part time resource. The Web replaces some work, but adds more. Web skills are needed. Clients expect new data to be Web enabled. There are 4 developers, including 2 student programmers who are doing CGI to interface database information to the Web.	A visual development environment is available. Development staff provides timely response to new Web needs.	*Evaluate visual Web development tools which include objects to enhance developer productivity. Evaluate growth of demand: add staff if needed.*	Application Development & Support
Provide information, with context and interpretation	Present and promote results	Use FaxPro to send news releases to news organizations.	E-mail news releases to media. How to attract the passive viewer – through more graphics? How do you get the graphics into a news article? Up to the newspaper, not to us. Send suggested graphics as an attachment.	*User task: develop email lists for media.*	Applications Portfolio

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Present and promote results	Using Frontpage (in some cases) to maintain the Web site. It's big now, and the future is data. Index, links, special pages, abstracts, document links, . . are new to online version – there ought to be some software out there to do most of this for us. Streamline hotlink capability. Need tools to keep high frequency info up front on the Web site. Do we need to think about moving some information off the Web over time? Does some stuff need to be pulled off into a backpage or archive? Are there standards for front page, back page, archive? Some reports from long ago are still important to people, and are requested.	*Web site tools enable efficient management of content and changes as the site grows. Hot topics and new information can be easily rotated to the home page.*	*Evaluate technology that will help organize the Web site, including style templates and quality control such as checking links. Look at data driven techniques to maintain the site.*	Applications Portfolio
Provide information, with context and interpretation	Present and promote results	Many constituents are not connected to computers. Staff spends significant time answering requests.	Provide an easy, low tech (specifically, non-Internet) way to deliver high volume information without any extra labor.	Automatic fax-back to individuals. Could manage by limiting to the top 50 topics – but most topic papers are not small enough to be faxed. Demography – often each request has something custom about it . . . but some things like POPnotes, etc. may be doable	Applications Portfolio
Provide information, with context and interpretation	Present and promote results	Web growth (in terms of number of pages) is hard to manage. Need a better file structure for the Web server. Directories are too big. Now organized by team with all years together. Have broken down pdf's by years.	*Web management tools support the anticipated growth of site content.* *Use database capabilities to post data that changes frequently. Support query capability and dynamic mapping.*	*Implement Web management software for static pages. Reduce the number of static pages by implementing a data driven architecture.*	Data Architecture
Provide information, with context and interpretation	Present and promote results	Other agencies want data, or access to the data. Some datasets are provided online; the Web reduces effort to supply data. 30-40 data sets are now available via FTP using a self service model.	*The geographic data clearinghouse concept is expanded to include all Agency data.*	*Expand the number of datasets available via FTP. Provide metadata to describe the data and search capability to find it.*	Data Architecture
Provide information, with context and interpretation	Present and promote results	The current Web site is organized along internal organization lines. The information is very text oriented and linear, mirroring the print paradigm. The mission is communicating ideas. The form is not	The Web should be organized the way people think. It should be visual, easy to navigate, and allow serendipity. Make links for citizens to navigate data easily.	*Periodically update the Web site architecture from a 'customer' point of view. Measure results (ideas communicated), not process.*	Data Architecture

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		relevant. The internal reward system needs to be changed. We need different criteria to measure success on the Web.			
Provide information, with context and interpretation	Present and promote results	Each team provides a contact person for the Web. Each team area submits its own content. The Web site mirrors the print world; publications are posted to the Web in .pdf form when the paper version is created.	Think in terms of publications as continuously updateable – most publications are going this way. The Web allows numbers to be published more frequently; faster, cheaper, and to a wider audience. Can put up entire reports; some have no other distribution.	*Develop streamlined Web publishing procedures that allow for frequent updates. Have users post updates directly; edit updates by exception.*	Data Architecture
Provide information, with context and interpretation	Present and promote results	There is a backlog of things to be done on the Web site. The Web site has been built using existing expertise and freeware. It's now too big to continue on a shoestring. The Web server is supported by Andrew and Richard – outside of IT. Web presence has been done on the side: no one has this as their main job. Need to formalize Web responsibility. No one is responsible for Web standards. Used to be informal; done in spare time. Getting out of control.	*There is formal responsibility for the content and supporting technology for the Web site. Adequate resources are assigned. Standards are in place.*	The Agency is hiring a Webmaster, who will set standards and determine the resources needed to upgrade and maintain the Web site.	Socio-Political Organizational
Provide information, with context and interpretation	Present and promote results	There is a Web representative on each team who is responsible to find content. There are monthly Web meetings, which are more to be sure it's working, and not proactive. Web information is an afterthought.	*Every team uses the Web to leverage its output.*	*Use the monthly meeting of Web representatives to communicate strategy and to plan content.*	Socio-Political Organizational
Provide information, with context and interpretation	Present and promote results	Current Agency output is written report heavy. How do you make information more accessible to citizens?	Visually convey the information: e.g. telecomm competition in a given area shown on a map. Annual crime perception survey: map perception vs reality. Visuals help legislature get the concept quickly; don't have time to read a lengthy report.	*Leverage LMIC resources for mapping capabilities. Survey Web sites and publications for alternate forms of presentation.*	Socio-Political Organizational
Provide information, with context and interpretation	Present and promote results	Apache and Linux generally run well. Need performance analysis: can't tell where bottleneck is when pages are slow.	*Performance problems are detected before there are user complaints.*	*Evaluate Web performance monitoring tools.*	Technology Infrastructure

Provide information, with context and interpretation

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Provide administrative support	Network support does not officially provide desktop applications support for users. Admin support staff supports each other for 'how to' questions; may send out an email request for help. Works OK with experienced users. Admin support helps others with computer support a lot. Example: team converting to Word from WordPerfect. There is a huge range of skills among teams.	*Users have completed training on standard desktop app;ications.There is a place for users to get official applications support.*	*Evaluate options for providing applications support: in house, outsource, phone, Web, etc.*	Application Development & Support
Provide information, with context and interpretation	Provide administrative support	Word templates exist and are effective. General users need training on how to use; there's lots of reformatting when documents are handed off.	*Documents are created in a standard format; reformatting is minimized.*	*Train users on Word templates.*	Socio-Political Organizational
Provide information, with context and interpretation	Provide information services	The gap between computer haves and have nots is getting wider. Some staff are more savvy and interested. Others rely on the experts for tools. Neat new stuff doesn't get communicated. This creates hard feelings. Issues on using new technology: learning curve, conversion, and short time frame. Approach to information resources: No money. Cheapest way. Not automated.	*Users have equal access to technology.*	Communicate capabilities:let users know what new technology is available. The library has instruction books and videos for using desktop applications. IT encourages a local computer user group. Seek out 'have nots' and provide training and upgrades as needed.	Socio-Political Organizational
Provide information, with context and interpretation	Synthesize information	The bulk of slowdown is getting the text written – not necessarily a technology issue. The production of ideas for publication is a manufacturing process, although we don't think of it that way.	*The writing stage of analysis is completed efficiently and deadlines are met.*	Evaluate and implement writing tools and software to organize thoughts, integrate research,.etc.	Applications Portfolio

Provide reliable and secure systems

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide reliable and secure systems	Provide information services	Need a virus strategy. Have had problems with virus checkers.	*Virus protection includes servers, desktops, email, and Internet.*	*Evaluate anti virus programs. Select and deploy.*	Technology Infrastructure
Provide reliable and secure systems	Provide information services	Have not had success with license inventory.	*Have an automated way to track hardware and software inventory.*	Evaluate Zen Works.	Technology Infrastructure

Provide reliable and secure systems

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide reliable and secure systems	Provide information services	Tape backup is available for Unix and Novell. Will need to expand the tape capacity for Novell if the RAID array is filled. The time needed to make a full backup is a problem (14 hours/Novell, 8 hours/Unix): full backups are only run on Friday night.	*All data is backed up at a frequency that allows for recovery in a time suitable for business needs.*	*Monitor tape backup time and capacity.*	Technology Infrastructure
Provide reliable and secure systems	Provide information services	Some server problems have been caused by A/C problems. The A/C system is ancient and needs to be replaced.	*A/C system is reliable.*	*Upgrade A/C system.*	Technology Infrastructure

Set municipal boundaries

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Set municipal boundaries	Manage Agency efforts	The Municipal Board staff has experienced radical change and the end state is not yet defined. Integration will be a challenge. Areas of similarity between the Municipal Board and MN Planning: Permit process in EQB, assistance model of Local Planning Assistance. Municipal Board has no Web presence.	*The Municipal board leverages the resources of the Agency, including the Web site. Use Web to post information to save phone calls: Pending cases, scheduling, receipt of documents, what's been approved in the monthly review. Post decided cases. Post status of others.*	*Need a decision on whether the Municipal Board will be a part of MN Planning for the long term. Assemble a team to work on system integration.*	Socio-Political Organizational
Set municipal boundaries	Manage requests	Municipal Board: Petitions come in. Entered in BARS database. If contested, case goes on list and goes on the docket for the next hearing. Database is in Visual Foxpro, developed by Technalysis. Users are generally satisfied.	*Petition status is available over the Web. Use the Web to post statute and process information with examples for people new to the process.*	*Analyze options for posting information on the Web: extract info to HTML periodically, or develop Web front end to the tracking database. Post instructional material.*	Data Architecture

Strategic Information Resource Plan by Information Resource Element

Applications Delivery and Support

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Organize and analyze data	Applications are developed in Delphi and C++. There is not much custom programming with ARCView.	ArcView can be extended by in house developers.	Assess the need for add-ons to ArcView v8. Train developers in C++ and VB.	Application Development & Support
Provide data, with tools and coordination	Organize and analyze data	*Applications for spatial data are custom developed.*	*Applications for spatial data are developed faster and at lower cost.*	Evaluate case tools and methodologies for working with spatial data. Once the environment is modeled, case tools allows visual development of code for spatial data processing. Investment may be substantial. Make sure the organization is prepared to accept this kind of approach.	Application Development & Support
Provide data, with tools and coordination	Organize and analyze data	Arcview vendor (ESRI) does not support software well, but there is a good user community, plus training and conferences.	*Same.*	*Continue to take advantage of all support resources.*	Application Development & Support
Provide efficient and cost-effective services	Finalize results	Web: not sure we have anticipated long term needs. Why develop in house if you can buy tools?	*The applications delivery strategy includes criteria for evaluating build vs buy, especially costs over the life of the application.*	*Periodically scan the market for new applications and development tools. Replace custom development with standard applications, or redevelop in an environment that is easier to support. Example: replace Datanet with an Web enabled OLAP package.*	Application Development & Support
Provide efficient and cost-effective services	Provide information services	Computer consultants are used for server issues, upgrading RAID array: Novell experts.	*Use third party help in areas where specialized knowledge is needed.*	*Continue making in house/outsource decisions.*	Application Development & Support

Applications Delivery and Support

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Present and promote results	Datanet development tools: GNU C, VI. Use Codebase to access dBase format files. All interactive code is CGI scripting. Datanet: constraining factor is human resources; technology is OK. Would like 1 or 2 more programmers, especially for the Web. Now done with part time resource. The Web replaces some work, but adds more. Web skills are needed. Clients expect new data to be Web enabled. There are 4 developers, including 2 student programmers who are doing CGI to interface database information to the Web.	A visual development environment is available. Development staff provides timely response to new Web needs.	*Evaluate visual Web development tools which include objects to enhance developer productivity. Evaluate growth of demand: add staff if needed.*	Application Development & Support
Provide information, with context and interpretation	Provide administrative support	Network support does not officially provide desktop applications support for users. Admin support staff supports each other for 'how to' questions; may send out an email request for help. Works OK with experienced users. Admin support helps others with computer support a lot. Example: team converting to Word from WordPerfect. There is a huge range of skills among teams.	*Users have completed training on standard desktop app;ications.There is a place for users to get official applications support.*	*Evaluate options for providing applica.ions support: in house, outsource, phone, Web, etc.*	Application Development & Support

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Facilitate communication and cooperation	Manage Agency efforts	Handoffs between teams may be a problem: evolved as independent operations. Have tried project management software. Timeline: decision in 12 months; lots of steps; need to prepare for board meetings.	*Project handoffs are expected and smooth.*	*Install project planning software and train users. Define and sequence project steps among teams up front.*	Applications Portfolio
Facilitate communication and cooperation	Manage Agency efforts	The Groupwise calendar function is used to schedule meetings. Some users still use paper calendars; electronic calendar data has been lost.	*Calendaring makes coordinating activities easier.*	*Expand use of calendaring. Ensure data reliability.*	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Facilitate communication and coope ation	Obtain data	It costs $5k per meeting to get people together. Is there an electronic substitute? Interagency committees: could use email, NetMeeting for communications. Were increasing visits to local meetings, due to more projects; must now cut back. Multiple meetings are held at the same time and resources are limited.	There is potential for technology to replace attendance at remote meetings, ranging from teleconferencing to posting exhibits on the Web to Netmeeting, where graphics and documents could be shared. Could post meeting information, and keep protected using a password.	*Explore remote meeting technology from a market perspective and to see what has been done elsewhere in the state. Do pilot testing.*	Applications Portfolio
Facilitate communication and cooperation	Obtain data	Use clipping service for news about MN Planning; results delivered on paper.	Receive and file clippings electronically. Make available on the network, but do not push to users. Include broadcast clipping services (or download transcripts)	Subscribe to an electronic clipping service. However, there are still lots of small and specialized publications which are not on the Web.	Applications Portfolio
Facilitate communication and cooperation	Provide administrative support	Groupwise Email is used a lot. Cuts down on faxes. Can response in seconds. Reduces postage. Have email lists; migrating from broadcast fax to email.	Same.	None.	Applications Portfolio
Identify strategic issues, then assist, demonstrate, and recommend	Obtain data	Need a way to monitor what's going on in industries over time.	*Analysts are kept up to date on selected topics with a minimum of effort.*	*Set up Web subscription services and/or customized home pages for key topics.*	Applications Portfolio
Identify strategic issues, then assist, demonstrate, and recommend	Obtain data	Do not currently gather citizen input from the Web.	*Web based collaboration tools allow online discussion, polling, and consensus-building.*	Research Web based collaboration tools. The Delphi technique for info gathering is now Web-enabled. Provide for informal Web-based polling and 'Issue du Jour'.	Applications Portfolio
Identify strategic issues, then assist, demonstrate, and recommend	Obtain data	Do not currently conduct public forums to gather citizen input.	*Technology enables a complete record and analysis of citizen input from public forums.*	Listening Posts/Forums... audience response technology. Poll before and after the presentation. How do you get feedback? Technology to elicit and speed up feedback, make turnaround data available, e.g. on-site scanners (mark sense) to scan people's responses.	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide coordination among agencies	Obtain data	There is an increasing need for linking to other states, accepting electronic versions of permits and environmental review documents. Some documents are now publicly available on other Web sites.	*Information is available and exchanged electronically in agreed-upon formats.*	Need common software or an exchange method for information from other agencies. This includes mapping software	Applications Portfolio
Provide coordination among agencies	Present and promote results	Local Planning Assistance provides a Web hosting service for local planning efforts: users create pages, send in, we posted on MNPlan community-based planning Web site.Use the Web to share information and coordinate activities, help project communications. Host Web sites for local projects.	A standard template for hosting Web sites speeds up the process. There is standard information needed for all projects: people involved, schedules, documents produced.	Team leverages template capabilities in FrontPage.	Applications Portfolio
Provide coordination among agencies	Support planning and coordination in other organizations	Local planning assistance does not extend to geographic data tools.	Provide data and tools to take data, evaluate it, help local governments make land use decisions: i.e., areas of prime farmland, areas subject to pollution, areas suitable for development. Provide framework for what questions to ask, what data is available, what the quality of data is, and how to factor in citizen's preferences, plus templates to fill in local information. Help local organizations to get a start with planning, and help them to get funding.	Develop tools and training for LCMR. Get data from LMIC and others. Create templates to fill in local information. Builds on EPIC/EPPL. Also want to develop an add on to Arcview.	Applications Portfolio
Provide coordination among agencies	Support planning and coordination in other organizations	MN Planning often serves as the coordinating agency for issues. Tasks: gather info, network with others. Don't often need research from the agency. Don't often need publication capabilities of Agency.	*The Web site provides a coordinating function for ad hoc groups.*	*Implement interactive Web capabilities, including scheduling and discussion.*	Applications Portfolio
Provide coordination among agencies	Support planning and coordination in other organizations	There is currently no application for program evaluation.	Program evaluation is used by the Governor to prepare for the next budget cycle. Can identify the overlapping functions throughout agencies.	Developing a new process for program evaluation. Start with a 2 page template to gather program info: send to all program managers. Includes intent, strategy, and measures. Process should include not just input from program managers: also get	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
				comments from citizens or lower level employees. Results will be used by the Governor to prepare for the next budget cycle. Want to index and cross reference program content. Select 5 keywords for each agency. Where are the overlapping functions throughout agencies? Possible solution: mind mapping.	
Provide coordination among agencies	Support planning and coordination in other organizations	After this administration is gone, want to have a process where innovation continues to flourish. Need to set up the culture and framework. Can technology help? Email flattened hierarchies. The Web allows the creation of virtual communities; this could connect people with similar functions across state agencies.	*Interagency communication and planning is maximized.*	Look at existing local discussion groups as a model. Implement and promote discussion groups among agencies. Include discussion groups for common functions across agencies.	Applications Portfolio
Provide coordination among agencies	Support planning and coordination in other organizations	Need presentation materials to teach the local planning process. Do a lot of one on one training.	Could use PowerPoint materials for local planners to customize for use with commission.	Local planning team: build standard Powerpoint presentations and templates.	Applications Portfolio
Provide coordination among agencies	Support planning and coordination in other organizations	Who has to know new municipal boundaries? City clerk, county, township, state demographer, Secretary of State, MNDOT for maps. Have a list of 30 organizations for orders.	*Municipal boundary changes are communcated to all parties quickly and efficiently.*	*Design and implement a process for communicating municipal boundary changes.*	Applications Portfolio
Provide data, with tools and coordination	Obtain data	Data Logger captures metadata. The user interface needs work. The output is easy to convert to HTML.	*There is an easy way for non-technical users to create metadata for their data sets.*	*Replace Data Logger; improve user interface. Consider hosting on the Web site.*	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Organize and analyze data	EPIC: GIS software and MN data are packaged together. EPPL software is DOS, moving towards Windows. Data includes 550 variables. New version has > 1g compressed data on CD. EPPL has a shorter learning curve compared to other GIS packages. Very easy to use. It also runs well on low end machines. EPPL: DOS based GIS engine. EPIC: client driven, Windows interface to EPPL. Technology used across agency: EPPL supports Community Based Planning tool. EQB includes EPIC for pipeline. Some baseline information is available for feedlots.	Next steps for EPIC/EPPL: Make socioeconomic CD or do Linux version of EPPL.	In process of bringing other EPPL functions to Windows. Converting 16 bit to 32 bit code. Using Delphi.	Applications Portfolio
Provide data, with tools and coordination	Organize and analyze data	ISITE creates the metadata index. This is a standard program supplied as part of the National Spatial Data Infrastructure.	Same.	None.	Applications Portfolio
Provide data, with tools and coordination	Present and promote results	Distributed data centers at local libraries provide a help line and a point of access to the Web site. Librarians are trained to answer questions; they handle 30k-60k questions per year and provide information on CD, published volumes, and online access. The librarian is an information navigator.	Same.	None.	Applications Portfolio
Provide data, with tools and coordination	Present and promote results	Datanet provides summary statistical information on the Web.Datanet supports Criminal Justice, Demography, and Critical Issues (Children's Report Card). The focus is on the public, decision makers, and libraries rather than researchers. Have 1500 users; target the average user. Refer custom runs to the University. Datanet gets 27000 hits/month on the Web. This is 30-60% of total Web site hits. The underlying data for Datanet is stored on a Unix server running Codebase (dBase). Census data was in dBase format. Scrubbing is done in dBase. Source data is in many different formats and typically needs to be cleaned. Have problems with old datasets and	*A Web based user query tool allows users to analyze and compare data in a more flexible, visual way.* *Move toward visual modeling. What are the implications are of certain policies? Use visualization tools. See Salt Lake City model – snapshot of the future. See also St Paul Neighborhood Plans. User interaction: online simulation. For planning information – multiple options presented and elicit input, then show results visually (use for Smart Growth)*	Evaluate using a Web enabled OLAP package for presenting data. OLAP = On Line Analytical Processing: what-if modeling software, e.g. a spreadsheet-like approach to data that allows drill down.This would eliminate development time spent on the user interface; developers could concentrate on the data instead. Include visualization tools. Datanet is adding city level data; can sum multiples; have multiple years. Adding school districts.	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		updates: the formats change from one run to the next. The dBase files supporting Datanet are summarized to improve performance. There is one database per Datanet query. Would like to be able to compare separate Datanet datasets with each other. Need to keep data more current; update all annually rather than as available.		Migrating separate Web pages to Datanet for better integration. Want to add the ability to query online Milestones by county. Looking for data analysis to do comparisons between indicators.	
Provide data, with tools and coordination	Present and promote results	There is a national network of gateway sites and data nodes for geographical data. LMIC participates as a node, and encourages other MN organizations to participate.	MN provides a node and a gateway site to the National Spatial Data Infrastructure.	LMIC is developing a MN gateway.	Applications Portfolio
Provide data, with tools and coordination	Present and promote results	Mapserver is used to create maps for the Web (e.g. Datanet). It reads ArcInfo files. Capabilities are adequate for today, but there is concern about limited support. The agency has a license for ESRI's Web product if needed. Server: P 450. Linux/Apache + Mapserver software developed under a NASA grant + DNR and LMIC enhancements.	The Web mapping tool is fast, well supported, and easy to implement for new datasets.	Do R&D on the best tool for presenting geographic data on the Web: Mapserver or ArcInfo Web tools.	Applications Portfolio
Provide data, with tools and coordination	Synthesize information	Census Bureau will produce only one report for the State, plus CD. Will offload all other queries to the new federal system 'fact finder for the nation'. Demand is too great to handle this volume at one site.	Standard Census reports for 2000 are available for the State.	Demography team: although there is no additional funding, the State will have to fill in the missing reports.	Applications Portfolio
Provide efficient and cost-effective services	Finalize results	Big issue is time [from request to publication]: need to be fast.	*Delivery times are reduced.*	*Start a project to look at the information analysis and publishing process as a whole. Using the manufacturing analogy, you can do these things to get speed:* *1. Optimize individual steps with tools and skilled people* *2. Design an integrated process with minimal steps* *3. Streamline handling (e.g.*	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
				electronic work flow) *4. Create components in advance, and assemble on demand*	
Provide efficient and cost-effective services	Finance Agency activities	MAPS (MN Accounting and Purchasing System): This version has been running for 4 years. Handles all accounting and procurement (these are organized in the system as separate functions). Includes annual budgets, all State spending, vendor payment, program budgets, cash receipts, and contracts. Standard and Crystal reports are available. Can output report data to Excel (2 managers use).	Managers can analyze monthly budgets in Excel.	More would likely use Excel budgets if trained; can help users set this up. This would save work: 2 hours/month to generate emailed reports.	Applications Portfolio
Provide efficient and cost-effective services	Finance Agency activities	SEMA4: in use for 4 years. Covers payroll, HR, and expense reporting. Has an overnight interface with Maps: salary projections, expenses roll up.	Same.	None.	Applications Portfolio
Provide efficient and cost-effective services	Finance Agency activities	BBS Biennial Budgets System from the Department of Finance: 2 years old. Actual data loads up from Maps, then users can input new spending plans. The agency can define the format: level and sorting. Planning presents as a whole: details are in Maps but roll up in total.	Same.	None.	Applications Portfolio
Provide efficient and cost-effective services	Manage Agency efforts	Need to track progress of projects. Tried a form with checklist to track milestones. Now doing a list to show all projects. Get quarterly project progress reports. Need to review and approve plans at the end. Need file system to collect documents. People hold on to data and do not share. Need to build a foundation for review. After publication is complete, a project is not done – there is presentation work, Web work, PR - visuals for author presentations; media plan, promotional flyer, brochure – we don't take these into account very well	Planning takes into account final date, length of front-end work, changing priorities, available resources, and all deliverables. Completion dates can be forecasted accurately.	*Install project planning software and train users. Use to ensure that all steps are planned and to increase visibility of project status.*	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide efficient and cost-effective services	Obtain data	Web browsing is used for research on other states, finding zip codes, hotels, airline flights. User share info on useful Web functions. There are phone lists in the Intranet. Use Web to track legislation, including State and Federal.	*Users share useful Web capabilities.*	*Add an intranet page to consolidate links to useful Web information.*	Applications Portfolio
Provide efficient and cost-effective services	Provide administrative support	Would like to fix the capability to fax from desktop, especially when sending to a large number of people.	Users can fax documents from the desktop via the server.	Fix network fax capability.	Applications Portfolio
Provide efficient and cost-effective services	Provide information services	Desktop suite: MS Office: Word, Access, Excel, PowerPoint. Do not take a hard line on standards, but users must have a business case to deviate.	*Users are on a current version of desktop software. Use of alternate software is minimized.*	*Software is current. Planning should begin for upgrading to the next version.*	Applications Portfolio
Provide information, with context and interpretation	Finalize results	Publishing software includes: Adobe Acrobat. Create .pdf versions of documents for the Web. PageMaker. Normal page layout tool. FrameMaker. Page layout: better tables than Pagemaker (not common). Macromedia Freehand. Main graphics program. Adobe Photoshop. Web graphics: pixel based graphics and photographs. Transferter Pro. File translation. Adobe Illustrator. Used for graphics created outside the agency; also for Arcview. Constraints in process: Graphics: some staff generate their own, some are done by support staff. Work gets transitioned to different people with different tools. Can formats be imported? Rework involved. Need compatible set of tools. Document compatibility: Different tools are used to create the document. Word is the standard and works well. Other programs have translation problems. Graphics are generally recreated for publishing. Can't	*There is an integrated set of publishing tools, and planning anticipates any issues.*	*Evaluate the publishing tool set. Reduce the number of tools used, and test compatibility.*	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		handle Freelance. Standards are not strong.			
Provide information, with context and interpretation	Finalize results	Use Netscape Composer and MS FrontPage to create Web pages, such as newsletters, press releases, and .pdf's. Pages are usually edited before posting.	*Web page development is as routine as developing a word processing document.*	*Pick the best tool for Web page development, then provide training, templates, and support.*	Applications Portfolio
Provide information, with context and interpretation	Finalize results	PowerPoint demand is growing: just started learning: doing templates. Do lots of presentations for the public. Will be teaching users how to present. Users do their own content. Currently, it takes hours to file transparency overheads.	*Users only need to be concerned with content when developing presentations.*	*Continue development of templates, and make users aware of them. Develop an electronic library of standard slides.*	Applications Portfolio
Provide information, with context and interpretation	Finalize results	Editing process: electronic vs hardcopy version – want to track what the editors changed.	*Editing time is reduced by exchanging documents electronically. Changes are documented.*	Collaboration editing tools: available in Word, other commercial products. There is a differences of opinion internally on whether this works within the agency (KG, TG). May work one-on-one between writer and editor, but not as groupware	Applications Portfolio
Provide information, with context and interpretation	Manage requests	Help line calls: 10k/year. Track statistics on calls, publications sent, referrals to other agencies. Currently, hospital wants statistics for funding request. Have some standard information packages to answer common questions.	Help line maps subject areas where there are a lot of calls, and builds a knowledge base. Produce standard info packets for 50% of calls. Give out Web addresses, post FAQ's on the Web.	Integrate the various tracking and knowledge base efforts going on currently. Provide a user self service capability for information.	Applications Portfolio
Provide information, with context and interpretation	Obtain data	The library participates in PALS, which keeps bibliographic records, patron records, and circulation records. It also allows interlibrary loans (in and out).	Same.	None.	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Obtain data	1. Do not routinely collect and manage original data; instead, make use of other agency's databases. Would like to have access to this data on the Web, but it is not available. Could benefit from knowing what data is available within the agency. How do you know what's available and how to use it? Where do you go for help? 2. Critical Issues must handle a variety of subjects, data sources, and clientele. Need flexibility and the ability to find new data sources. 3. Internal research: The most frequently used research is electronic, though as print collection grows, the physical collection is gaining in importance. The librarian does research for users. Resources: OCLC first search, Dow Jones, Lexis/Nexis. Fee based services are kept in house to control cost. 4. If people only do research on the Web, data is less complete. May need additional training on the library system for users to be comfortable and to encourage use.	*Information is easy to find, regardless of its format (paper or electronic) or location (inside or outside the Agency).*	*Continue to train users in search techniques and data sources. Complete electronic cataloging of library holdings. Stay abreast of new data sources, and catalog them in metadata records. Coordinate metadata efforts with library standards.*	Applications Portfolio
Provide information, with context and interpretation	Obtain data	Used GPS to gather CFL and pipeline data. The accuracy of GPS data varies.	*Location data is highly available and very accurate.*	*Continue to gather data using GPS. Promote standards for accuracy.*	Applications Portfolio
Provide information, with context and interpretation	Organize and analyze data	For statistical analysis, SPSS is used, primarily because it handles many data formats well. Its internal format is dBase. We don't have the most recent edition (e.g. publish results directly to Internet). The less additional processing needed, the better as far of speed and accuracy of going to the Internet.	Analysis and Internet presentation is seamless: no need to transfer results to different software.	Upgrade SPSS to most recent version, including Internet capabilities.	Applications Portfolio
Provide information, with context and interpretation	Organize and analyze data	For Demography, the standard mapping program is Atlas. Have discussed changing to Arcview, but this department usually has only one layer and finds Atlas easier to use. Both packages are now owned by the same	Provide needed mapping capabilities to users without extra support or conversion issues.	Evaluate software and training issues to see if conversion to a single mapping program is worthwhile.	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		company - ESRI.			
Provide information, with context and interpretation	Organize and analyze data	For database software, Demography is using Access primarily. However, Approach handles long and broad files better than Access (200-300 data elements per record). Typical usage: extract a subset of data and analyze.	*The standard database solution handles databases of any size and complexity.*	*Evaluate a server-based database solution for efficient processing of large databases. Standardize the front end application.*	Applications Portfolio
Provide information, with context and interpretation	Organize and analyze data	GIS users run ArcInfo and ArcView on local NT workstations. Many other planning organizations use Arcview to manage information and display data on maps. No mapping software has gotten easy enough to use to support the casual user. Attempts to set up Arcview for casual users have not been successful. Most casual needs are supplied by going to power users for help	Same.	None.	Applications Portfolio
Provide information, with context and interpretation	Organize and analyze data	There is no way to check the validity of land area descriptions.	Descriptions of land areas are validated; errors are corrected.	Add Survey Coordinate Geometry software to check for legal closing of legal descriptions (COGO). Also good for redistricting.	Applications Portfolio
Provide information, with context and interpretation	Present and promote results	Use FaxPro to send news releases to news organizations.	E-mail news releases to media. How to attract the passive viewer – through more graphics? How do you get the graphics into a news article? Up to the newspaper, not to us. Send suggested graphics as an attachment.	*User task: develop email lists for media.*	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Present and promote results	Using Frontpage (in some cases) to maintain the Web site. It's big now, and the future is data. Index, links, special pages, abstracts, document links, . . are new to online version – there ought to be some software out there to do most of this for us. Streamline hotlink capability. Need tools to keep high frequency info up front on the Web site. Do we need to think about moving some information off the Web over time? Does some stuff need to be pulled off into a backpage or archive? Are there standards for front page, back page, archive? Some reports from long ago are still important to people, and are requested.	*Web site tools enable efficient management of content and changes as the site grows. Hot topics and new information can be easily rotated to the home page.*	*Evaluate technology that will help organize the Web site, including style templates and quality control such as checking links. Look at data driven techniques to maintain the site.*	Applications Portfolio
Provide information, with context and interpretation	Present and promote results	Many constituents are not connected to computers. Staff spends significant time answering requests.	Provide an easy, low tech (specifically, non-Internet) way to deliver high volume information without any extra labor.	Automatic fax-back to individuals. Could manage by limiting to the top 50 topics – but most topic papers are not small enough to be faxed. Demography – often each request has something custom about it . . . but some things like POPnotes, etc. may be doable	Applications Portfolio
Provide information, with context and interpretation	Synthesize information	The bulk of slowdown is getting the text written – not necessarily a technology issue. The production of ideas for publication is a manufacturing process, although we don't think of it that way.	*The writing stage of analysis is completed efficiently and deadlines are met.*	Evaluate and implement writing tools and software to organize thoughts, integrate research,.etc.	Applications Portfolio
	Manage requests	Need to gather info as a response to outside requests. Work cannot be planned, except at the capacity level. Ability to anticipate requests: where do you scan for issues? Don't have trend analysis (wide open indicators and activities). There are recurring themes to issues: brainstorm periodically with all teams: some that were identified this way are active now: affordable housing, farm competitiveness. Find local issues and encourage people to look at things from a state perspective. Also	*There is a proactive response to issues; information is gathered before requests come in.*	*Develop a shared database of potential issues and ideas. Allow posting of documents and Web links. Log ideas, provide for online discussion, then use results as the agenda for a brainstorming session.*	Applications Portfolio

Applications Portfolio

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		do trendspotting from email contacts, other states.			

Data Architecture

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Facilitate communication and cooperation	Manage Agency efforts	There is no formal tracking of employee skills.	Skills bank would be useful just to meet internal needs. Track areas of expertise in organization.	*Develop and maintain a skills database accessible to the entire organization (e.g. SEMA4 could have this capability, but would not be appropriate unless everyone had access).*	Data Architecture
Facilitate communication and cooperation	Present and promote results	List maintenance is an issue, unless software is available to let the list maintain itself. Mail list management: spiff up our outreach. Someone should go over the mail lists /contact list. This is labor-intensive. Need technology solution for keeping lists up to date. MS Access is used by most of admin support. Databases include: mailing lists (including MN Milestones), publication requests, conference registrations, meeting groups, forms for phone contacts, Federal survey mailing list, Education survey for MN Milestones. Users have limited time for training. Have considered a standardized format for these databases, but the topics and contents are diverse.	*MN Planning can target delivery of information to interested parties. Have the system identify peoples' interests; cross-sell - suggest topics for a user.* *Target legislators; provide email notice on publications; IssueWatch, Criminal Justice.* *Potential application for environmental impact, as an extension to the EQB monitor: let Web users register for their area of interest. Send an email notification when something shows up in the selected area. EQB Monitor has the data: need to add geographic location, e.g. township.*	*Consolidate list oriented databases. Use automated e-mail list update/response and provide a Web page for stakeholders to register their interests.*	Data Architecture
Provide coordination among agencies	Obtain data	Criminal Justice data quality: the challenge is getting local systems to know about the data architecture and to follow the recommended design when enhancing systems. The policy group is empowered by statute to review systems, but they're too busy to educate local communities. There is a volunteer training group to do this. Data quality relates to training, assumptions, poor attitude, and lack of knowledge. Workload is huge and turnover is high for data entry	*Criminal Justice data is accurate and requires minimal cleanup before use.* *Analysis adds value to local records; local use provides feedback mechanism for quality.*	*Likely a Criminal Justice team effort: Work with the Criminal Justice Data Group on standards and training. Provide feedback to data sources on quality issues. Analyze the cost of quality and work with other agencies to get funding to fix the problems.* *Develop a reporting mechanism for local law enforcement; show how counties compare with each*	Data Architecture

Data Architecture

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		personnel. There is no feedback on missing data. People expect data errors: they make phone calls to ensure that info is OK. National Criminal History Improvement: cross justice organizations; data & reporting for local/county/state: improve quality. The quality control process is an issue. Need to interpret the accuracy of reported data.		*other. Always send a copy of an analysis to the people who contributed data.*	
Provide coordination among agencies	Organize and analyze data	Data is going online at originating agencies: BCA annual report: MNPlan adds annual trends. Data from other agencies is replicated here. Other agencies have not been consistent in keeping topics on the Web in the same location. Do link to sites at the organization level.	*The State appears as an entity to the Web user.*	*Initiate an interest group among agency Webmasters to coordinate online data.*	Data Architecture
Provide coordination among agencies	Present and promote results	Use of Web site is limited to final format. Don't post meeting minutes. Preliminary results are not posted for feedback: Would like to do this. However, in some cases (ie airline competition), politically sensitive reports are kept confidential during development.	*Use the Web to support processes, especially where user input or feedback is needed.*	*Add interactive capabilities to Web server, including the ability to update databases for use in status tracking. Add online forums. Link discussion to documents, similar to Amazon book reviews.*	Data Architecture
Provide coordination among agencies	Support planning and coordination in other organizations	A majority of land records are kept manually, on paper.	LMIC has a leadership position in working with local organizations throughout the State to modernize land records.	Set up a prototype site for land records modernization. Need Relational DBMS and GIS – some of which we have. Data loading: original data collection standards need to be developed. Document management software (scanning and indexing) for hand-written records, OCR.	Data Architecture
Provide data, with tools and coordination	Manage requests	Geographic data: Users still require some consulting to choose the best data set. People typically read the metadata pages before calling.	*The geographic data clearinghouse is largely self service.*	*Develop a process to integrate the answers to common user questions into the metadata records. Publish examples of dataset use. Look at long term impact of clearinghouse in terms of growth in the operational support role.*	Data Architecture

Data Architecture

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Organize and analyze data	Preparing data for use is very labor intensive. Data transfer and conversion when getting information from other agencies – we spend time converting. There are data quality issues. Funnel information through 1 or 2 people because they do a certain process. Need to load data without reformatting and bottlenecks. We are putting too much labor into everything we collect. Changes to source data over time make it difficult to get a long term view.	Data preparation is fast and takes little effort. Data is collected in a consistent format.	1. Evaluate data mapping tools or report-scrubbers – bring report up or scan, extract data tables from them & put into a database., e.g. Monarch. 2. Provide better templates for data to other agencies so that they know what we want. 3. There are open database engines that can be used to extract data from multiple data bases. Something like Datanet but without the additional massaging of data that it takes to bring outside data into Datanet. Develop and promote data standards.	Data Architecture
Provide data, with tools and coordination	Organize and analyze data	Data for the American Community Survey is currently not available.	Data for the American Community Survey is available. New, covering 3.5 m households. Will be phasing in to smaller and smaller geographic/population units.. Expect the patter of data usage to changes to continuous demand (old model: new info every 10 years).	*Create metadata, database, and analysis applications for the American Community Survey.*	Data Architecture
Provide data, with tools and coordination	Organize and analyze data	Data: Census microdatabase: Includes a sample of individual level data with individual identifier stripped off.. Size is 120-130mb for each year.	*Census 2000 microdatabase is documented and available, along with standard analyses.*	*Update metadata, databases, and analysis applications for changes in 2000 census.*	Data Architecture

Data Architecture

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Organize and analyze data	Geographic data is currently stored in a proprietary relational format supplied by ESRI as part of the Arc... software called 'Info'. The industry is moving towards using standard relational databases. There is a risk that the internal Info database may go away.	*Geographic data is stored in a way that supports the expected need for sharing, size, and frequency of access.*	Need to decide if geographic data should be migrated to an enterprise RDBMS. Deciding factors include the size of the organization and the need to share data between users concurrently. There is a significant additional cost for the database software, training, and ongoing support.	Data Architecture
Provide data, with tools and coordination	Organize and analyze data	LMIC acts as a clearinghouse today. It publishes a paper based data catalog and participates in the National Spatial Data Infrastructure. Metadata exists for data sets and is searchable from the Federal network. Low tech tools work great, too: evolving a paper catalog of data sources. This can be extremely helpful. An accurate description of variables in a 3 ring binder is a key tool. Data standards issues: 1. Documenting and cataloging data sets. 2. Definition of individual elements. 3. Accuracy of geographic location. 4.Getting consistent keywords, themes, and accuracy between different data sets. Need standards for data and keys for Datanet and the Info RDBMS. The agency reward system does not extend to data or metadata. There are few resources to do this right.	*The best data set for a query is easy to find. The clearinghouse will index GIS data that is distributed; local storage will be available if preferred by the provider.* *Promote the use of data by publishing user profiles: show how data is used with models and examples.*	*Continue development of metadata for internal and external data sets. Help define specifications for accuracy. Provide models and examples for data use. Evaluate and secure resources needed.*	Data Architecture
Provide data, with tools and coordination	Organize and analyze data	As more data is collected, there are more opportunities to compare data sets. For EMS study, need data from many sources. In the past, the soil erosion model came from LMIC. Now data is more distributed. Think of data standards as providing an enterprise infrastructure. Content is the big issue; physical format is less of an issue (conversion programs are avaliable). It's very important to provide the glue for content. It is easier for a single organization to solve its particular problem (roads,	*Data standards ensure separate data sets can be used together*	*Work with standards bodies to define common field definitions. Work with data source organizations to convert to new standards.*	Data Architecture

Data Architecture

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		pipeline, crime) than to set standards that allow the comparison of diverse data sets from different organizations.			
Provide data, with tools and coordination	Organize and analyze data	There is a backlog of data documentation to be done.	*Data documentation is complete.*	*Obtain resources to document data. Make documentation a requirement of all projects. The new release of software from ESRI may help: it updates some metadata on the fly.*	Data Architecture
Provide information, with context and interpretation	Finalize results	Do a lot of repurposing for print and Web; can't use the same document for both. Have lots of issues with colors and graphic formats. Use .pdf for print-like docs. PDF is OK except for graphics size: often pull out graphics and add link in document. Colors are different; may need to change to allow pdf to print like original document. For larger documents, may want to break into sections for the Web. Changing printer drivers can cause text to reflow. Resolution may be different with outside printers.	*The print version and .pdf version of a publication are produced in a single step without rework.* *There is a standard process for producing Web 'extras' like an abstract, hyperlinks, etc.*	For creation of .pdf's: challenge the assumption that the print publication and the Web publication are two separate documents or projects. Find a tool that supports both easily. Conversely: Web work is different from publications. There are new pieces that need to be added – including abstract, etc. Don't think of it as the same medium as publication. Develop guidelines for communicating effectively using the Web.	Data Architecture
Provide information, with context and interpretation	Finalize results	Need to manage maps and logos. Need multiple formats. Use a central shared directory.	Standard graphics are easy to find and use.	*Make sure the filing system for standard graphics is easy to use. Reduce the number of formats if possible (possibly related to reducing the number of publishing tools)*	Data Architecture
Provide information, with context and interpretation	Obtain data	There is very little documentation. For example, there is no description of the data set for demography on the Web. Don't have a library or indexing function for data that is available. Sources are project specific. Sources of data include Dept of Labor, Census, Dept of Commerce Bureau of Economic Analysis, IRS, building permits, survey of nursing home populations, chambers of commerce, cities, townships,	*There is complete documentation for data sets, promoting reuse.*	*Leverage the metadata and clearinghouse efforts of LMIC for the rest of the Agency's data. Standardize data platforms and formats as part of an Enterprise Data Architecture.*	Data Architecture

Data Architecture

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		Dept of Health. It's difficult to find the right source for data: State or Federal, PCA, DNR, EPA, Economic development. The clearinghouse concept does not extend beyond geographical data. It does not include other data at MN Planning, like demographics. It also does not include finished products such as maps.			
Provide information, with context and interpretation	Obtain data	No data collection from wind farms.	Will be collecting production data from wind farms. High volume is expected: there will be several hundred turbines and frequent samples.	Create a database for wind farm data, using a platform that can accommodate high volume.	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Criminal Justice data and source: 1. Offenses known and reported, arrests and apprehensions. Includes count monthly by offense. Incident may contain multiple entries, one for each offense. Source: BCA. In FBI format. 2. Computerized Criminal History: gross misdemeanor and felony w/fingerprints. One record per offender, with multiple counts if needed. Related suspense file contains records without matching prints (a frequent problem). Source: BCA. 3. Supreme Court juvenile database through 1997. Secured: permission required to access. 4. Dept of Corrections: Summary records of probation and prisoners. Annual. 5. State facility information: annual summary (not a database). 6. Justice expenditures for county: includes costs for sheriff, jail, probation, judicial system. Get data annually in summary.	Same.	None.	Data Architecture

Data Architecture

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Organize and analyze data	There are lots of unique projects in sustainable development. Need to integrate economic, population, and geographic data. What is the environmental impact of industries you are helping to develop? Systems are not integrated. Need to track cumulative impacts of (multiple, independent) projects. Need to balance immediate needs vs developing a base of information. "Integrated access to environmental information" is not sponsored here. Pipeline reviews are done by EQB. Other environmental reviews are distributed: would like to track the accumulation of all projects. Gather data how?	*Provide comprehensive environmental impact of projects in a selected area.*	*Determine sources of environmental impact data and a standard way to collect data. Collect data into a common format and provide a means to analyze.*	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	It is difficult to detect new hot issues and to provide a quick response. What is the potential for mining data and putting out short reports for the public? Could use a way to uncover trends without asking a particular question.	"Engage the public in thinking about the future of the State". An extension of Milestones.	*Consider the potential use of data mining tools when developing an Enterprise Data Architecture. Evaluate tools.*	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Filing is an issue: there is no protocol for shared data, and no good hardcopy filing system. Individuals do their own filing. To share files, use attachments or G drive. Drive is structured by team. Files are relatively easy to find.	*Documents are files consistently, and are easy to find and share.*	*Provide training and standards for filing. Assess potential for paper/document management software.*	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	There are separate collections of books/reports within the agency, including Demography, Criminal Justice, EQB, and Local Planning Assistance. There is no capability to search and retrieve items from these separate document stores.	All the library contents are indexed in one system, even if the materials are in distributed locations. Local Planning Assistance is already integrated into PALS; EQB collection is currently being cataloged.	For library: catalog all holdings in PALS.	Data Architecture

Data Architecture

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Organize and analyze data	Need to manage and archive data. Data can get lost if it only exists on a local machine. There is generally less ownership of data because it comes from an external source. Role in archiving information: this is a legal requirement that has not been closely managed. Needed materials are not cataloged. When information gets subpoenaed, (2 in the past year), need to find, box and ship materials. They don't get integrated on return. Need procedures for archiving data for state repository. Project information is separate; some is confidential and requires separate handling.	*Manage and archive data in accordance with State guidelines.*	*Provide training and standards for data management and archiving.*	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	An internal data architecture is needed [for geographic data], including base maps, naming conventions, and organizational structure. Users should decide what's in and what's out. User struggle to know the data exists. Organizational attempts have not led to efficient mapping. The limitations aren't technical. Investment in data resources will lead to better productivity from people doing maps. Relationship between LMIC project and data services: both create data and rely on existing data. Looking forward to the day when it's easy to pull data from the clearinghouse, including water, roads, county boundaries. Today data is scattered; there are multiple sources. There are also some scale issues.	An internal data architecture is in place, including base maps, naming conventions, and organizational structure. Investment in data resources results in better productivity from people doing maps.	The intent is to standardize base maps from digital data on various scales using consistent colors and symbols. (This does not mean resolving style issues; styles change). Start with big demand data sets and make as accessible as possible. Include deviations if needed for a good reason, but in general spend less time on derivative products. Use metadata to describe duplicates and advantages.	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Projects tend to keep their own data sets and use them between projects. There are issues when users work with copies of the enterprise data. 1. If errors are corrected, they don't always get back to the enterprise copy. 2. Copies need to be managed and archived at the end of the project.	Have documented data sets in a common catalog.	*Analyze reasons for keeping copies of data, and address. Communicate the long term value of enterprise data.*	Data Architecture

Data Architecture

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Organize and analyze data	Maintain a collection of local government plans and ordinances. Need a good system to capture updates. There are 87 counties, 800 cities, and more than 1,500 townships, although not all plan. This is a separate collection within agency.	*Collection of local plans is complete and up to date.*	*Develop update process for local plans.*	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Text based information is difficult to manage.	There is full information management (e.g., text management) of all information that comes in on an issue. A 'Meta-media search engine' does content analysis.	Evaluate and implement technology to do text scanning and indexing automatically (some is manual – like creating the abstract).	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	Today, data exists in 'silos', e.g. it is not easy to use separate data sets together. Demographics compares databases from multiple sources. For example, Census estimates vs school enrollments. Unlike other agencies, Demographics maintains history. For example, the Health Department collects data but does not keep history. Time series is critical.Annual problem: timing reference of data: fed fiscal year, state fiscal year, calendar year, census year, census estimates year. Also, some data is point in time vs annual total (population vs births).	There is an Enterprise Data Architecture for the Agency, including data standards and technical compatibility. The standard dimensions of location and time are handled consistently across all subject areas.	Define an Enterprise Data Architecture. Decide on a logical place to start out, e.g. county DB. Must be application-independent. Standards include some technical compatibility. One place to start: what data is used the most? Suggestion: Census time series information – temporal view of census data. Define standard data + geography + time. Tools at ESRI conference could create an object model of information design; model LMIC's data holdings.	Data Architecture
Provide information, with context and interpretation	Organize and analyze data	What do we need to know about other agencies, and how do we track these? E.g., strategic plans, etc? Cross-reference agencies dealing with water? Organize by functions . . . this is a different kind of database. Use to determine the "best bang for the buck". There is a basis for this in the Minnesota Handbook – now available on CD - published by Dept of Administration. State programs and projects need to be on the radar screen. We have a difficulty defining indicators and finding data to support them. Need to define	*It is possible to assess government effectiveness across agencies, and to identify duplicate efforts. This includes a multi-year and local Milestones database.* *Dashboard software displays the status of key indicators.*	*Develop a data architecture for tracking information about State agencies, including strategies and indicators. Collect and report data.* *Evaluate goal tracking and dashboard software to display key indicators.*	Data Architecture

Data Architecture

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		what indicators are. How do you collect indicator data?			
Provide information, with context and interpretation	Present and promote results	Web growth (in terms of number of pages) is hard to manage. Need a better file structure for the Web server. Directories are too big. Now organized by team with all years together. Have broken down pdf's by years.	*Web management tools support the anticipated growth of site content.* *Use database capabilities to post data that changes frequently. Support query capability and dynamic mapping.*	*Implement Web management software for static pages. Reduce the number of static pages by implementing a data driven architecture.*	Data Architecture
Provide information, with context and interpretation	Present and promote results	Other agencies want data, or access to the data. Some datasets are provided online; the Web reduces effort to supply data. 30-40 data sets are now available via FTP using a self service model.	*The geographic data clearinghouse concept is expanded to include all Agency data.*	*Expand the number of datasets available via FTP. Provide metadata to describe the data and search capability to find it.*	Data Architecture
Provide information, with context and interpretation	Present and promote results	The current Web site is organized along internal organization lines. The information is very text oriented and linear, mirroring the print paradigm. The mission is communicating ideas. The form is not relevant. The internal reward system needs to be changed. We need different criteria to measure success on the Web.	The Web should be organized the way people think. It should be visual, easy to navigate, and allow serendipity. Make links for citizens to navigate data easily.	*Periodically update the Web site architecture from a 'customer' point of view. Measure results (ideas communicated), not process.*	Data Architecture
Provide information, with context and interpretation	Present and promote results	Each team provides a contact person for the Web. Each team area submits its own content. The Web site mirrors the print world; publications are posted to the Web in .pdf form when the paper version is created.	Think in terms of publications as continuously updateable – most publications are going this way. The Web allows numbers to be published more frequently; faster, cheaper, and to a wider audience. Can put up entire reports; some have no other distribution.	*Develop streamlined Web publishing procedures that allow for frequent updates.Have users post updates directly; edit updates by exception.*	Data Architecture
Set municipal boundaries	Manage requests	Municipal Board: Petitions come in. Entered in BARS database. If contested, case goes on list and goes on the docket for the next hearing. Database is in Visual Foxpro, developed by Technalysis. Users are generally satisfied.	*Petition status is available over the Web. Use the Web to post statute and process information with examples for people new to the process.*	*Analyze options for posting information on the Web: extract info to HTML periodically, or develop Web front end to the tracking database. Post instructional material.*	Data Architecture

Socio-Political Organizational

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element

Socio-Political Organizational

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Facilitate communication and cooperation	Manage Agency efforts	Is this one or many agencies?	Agency acts as a Federation (teams are interdependent, and need each other to succeed). For Information resources, Agency acts as an Enterprise (makes decisions as a whole).	Strategic IRM plan sets a direction for deploying information resources.	Socio-Political Organizational
Facilitate communication and cooperation	Manage Agency efforts	Sit in silos. It would help to mix up physical locations and to provide open areas for discussion.	*There is synergy among teams.*	*In addition to the physical changes suggested, use electronic means to share information among teams and to stimulate discussion. This may include email news, internal web pages, and electronic discussion groups.*	Socio-Political Organizational
Facilitate communication and cooperation	Synthesize information	Seen as independent, with no vested interest. Output seen as credible from Legislators and policy makers.	Same.	None.	Socio-Political Organizational
Provide coordination among agencies	Finance Agency activities	Most data is secondary – doesn't originate with MN Planning. As a result, have less pull with the Legislature for funding.	*MN Planning gets adequate funding for providing data and information.*	*Emphasize the value added by MN Planning, especially where analysis crosses organization boundaries.*	Socio-Political Organizational
Provide coordination among agencies	Obtain data	Do not have access to State agency financial data due to security restrictions.	Have financial data needed to analyze State government effectiveness.	Link to Finance in terms of shared data: Clearance for our agency to use Finance data warehouse (State information system)	Socio-Political Organizational
Provide coordination among agencies	Organize and analyze data	Arcview is going to more users, and more novice users. This creates more support calls. Will support new users to get started. Although GIS technology is growing, it is often misapplied. There is a need to educate and to provide best practices. Through exposure to other states, can learn and disseminate information.	*New GIS users make effective use of the technology. More organizations can contribute data to the GIS clearinghouse.*	*Provide education on constructing a data set and proper coding so more users can get value from the data.*	Socio-Political Organizational
Provide coordination among agencies	Support planning and coordination in other organizations	Further LMIC's mission by leveraging work done elsewhere. There is a Federal level interest in standards.	The mission of LMIC is optimized by coordinating with other agencies, especially Federal.	Establish a partnership with State and Federal organizations. The Federal side has more resources.	Socio-Political Organizational

Socio-Political Organizational

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide coordination among agencies	Support planning and coordination in other organizations	GIS is growing. Any major organization will have access to geographic data. Attendees at ESRI grow by 1000 per year. Universities are producing talent with good GIS exposure. Microsoft Office, Excel, free packages, free data are available. There are more State agencies with GIS experience. This growth has a dramatic effect on data needs. In the past, LMIC was the only source for data. It's now one of many players. Other key GIS organizations and their relationship to LMIC: The DNR data deli is positioned as a data provider; LMIC is positioned as a data search and mining tool. MetroGIS has developed its own database architecture for metadata; LMIC is adopting the national software standard.	*LMIC is an efficient, easy to use, conprehensive source of spatial data for the State of Minnesota. The new role is to coordinate rather than to control.*	*Complete data clearinghouse project and become a node of the National Spatial Data Infrastructure.*	Socio-Political Organizational
Provide efficient and cost-effective services	Finance Agency activities	The financial environment is one of constrained resources. Agency priorities effect everyone's budget. Reallocation is common.	*Resources are constrained, but plans provide a way to judge the impact of resource reallocations.*	*Install project planning software and train users. Allocate resources to projects. If reallocations are made, the impact can be quantified in the project schedule.*	Socio-Political Organizational
Provide efficient and cost-effective services	Manage Agency efforts	People feel constrained by the limited budget. Haven't thought about ways the future could be different.	*People think in terms of achieving the Agency's intentions, and resources are allocated to maximize the contribution of IR.*	*Involve staff in the planning process. Encourage and capture good ideas, even if they can't be implemented immediately due to resource constraints.*	Socio-Political Organizational
Provide efficient and cost-effective services	Manage Agency efforts	There is a perception that LMIC is separate from the agency. Since LMIC provides IT for the agency as a whole, is this a potential problem?	*IT is positioned as an Agency resource; users feel they have equal access.*	*IT participates in analysis and design of Agency business processes, working together with users; there is involvement beyond basic support.*	Socio-Political Organizational

Socio-Political Organizational

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide efficient and cost-effective services	Manage human resources	Users want training. Need to get new employees up to speed. After a short introduction from network support, most information comes from coworkers. Student workers need more expertise but turn over faster. One team has had 6 different support people over the past two years. High turnover increases the need for staff training and support. Use New Horizons for training; find it helpful.	*Training for new users is quick and efficient.*	*Standardize and package IT training for new users, including, for example, using videos available in the Agency library. Provide a technology 'mentor' for new users.*	Socio-Political Organizational
Provide efficient and cost-effective services	Provide information services	Weekly meetings set policies: 3 network support people plus Marcia (people perspective) and David (technical perspective).	*Policies are well defined and communicated throughout the organization.*	*Add user team representatives to planning where users will be affected. Make policies available on the intranet.*	Socio-Political Organizational
Provide information, with context and interpretation	Finalize results	Have a planning meeting before a project starts to set software standards, graphics requirements, and distribution. This solves a lot of problems. But these meetings are not always held, or held too late in the project. Planning is especially important with outside sources of graphics: need advanced planning to test files. Publishing team pushes for maps and graphics	*There is an integrated set of publishing tools, and planning anticipates any issues.*	*Always have a planning meeting with Publishing up front: once aware of findings, get ready to plan output.*	Socio-Political Organizational
Provide information, with context and interpretation	Finalize results	Training would help in speed of graphics. Compatible programs help transfer and avoid rework. Writer needs to play with variations to get optimal (prototype). This may be a different tool from publishing.	*The originators of graphics create a version that is very close to final form, reducing rework.*	*Train users in graphics requirements and in the use of graphics tools. Increase communications between originators of graphics and those who create the final version. If possible, use the same tool to avoid rework.*	Socio-Political Organizational
Provide information, with context and interpretation	Finalize results	Lots of user training is needed for using the Web and developing Web content. Users get frustrated trying to find information. Issues: what part of the Web are you searching; definition of search terms.	*Web research and Web development become part of the user's standard skill set.*	*Add Web use and page development to standard training offerings. Provide incentives for users to attend classes.*	Socio-Political Organizational

Socio-Political Organizational

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Present and promote results	There is a backlog of things to be done on the Web site. The Web site has been built using existing expertise and freeware. It's now too big to continue on a shoestring. The Web server is supported by Andrew and Richard – outside of IT. Web presence has been done on the side: no one has this as their main job. Need to formalize Web responsibility. No one is responsible for Web standards. Used to be informal; done in spare time. Getting out of control.	*There is formal responsibility for the content and supporting technology for the Web site. Adequate resources are assigned. Standards are in place.*	The Agency is hiring a Webmaster, who will set standards and determine the resources needed to upgrade and maintain the Web site.	Socio-Political Organizational
Provide information, with context and interpretation	Present and promote results	There is a Web representative on each team who is responsible to find content. There are monthly Web meetings, which are more to be sure it's working, and not proactive. Web information is an afterthought.	*Every team uses the Web to leverage its output.*	*Use the monthly meeting of Web representatives to communicate strategy and to plan content.*	Socio-Political Organizational
Provide information, with context and interpretation	Present and promote results	Current Agency output is written report heavy. How do you make information more accessible to citizens?	Visually convey the information: e.g. telecomm competition in a given area shown on a map. Annual crime perception survey: map perception vs reality. Visuals help legislature get the concept quickly; don't have time to read a lengthy report.	*Leverage LMIC resources for mapping capabilities. Survey Web sites and publications for alternate forms of presentation.*	Socio-Political Organizational
Provide information, with context and interpretation	Provide administrative support	Word templates exist and are effective. General users need training on how to use; there's lots of reformatting when documents are handed off.	*Documents are created in a standard format; reformatting is minimized.*	*Train users on Word templates.*	Socio-Political Organizational
Provide information, with context and interpretation	Provide information services	The gap between computer haves and have nots is getting wider. Some staff are more savvy and interested. Others rely on the experts for tools. Neat new stuff doesn't get communicated. This creates hard feelings. Issues on using new technology: learning curve, conversion, and short time frame. Approach to information resources: No money. Cheapest way. Not automated.	*Users have equal access to technology.*	Communicate capabilities:let users know what new technology is available. The library has instruction books and videos for using desktop applications. IT encourages a local computer user group. Seek out 'have nots' and provide training and upgrades as needed.	Socio-Political Organizational

Socio-Political Organizational

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Set municipal boundaries	Manage Agency efforts	The Municipal Board staff has experienced radical change and the end state is not yet defined. Integration will be a challenge. Areas of similarity between the Municipal Board and MN Planning: Permit process in EQB, assistance model of Local Planning Assistance. Municipal Board has no Web presence.	*The Municipal board leverages the resources of the Agency, including the Web site. Use Web to post information to save phone calls: Pending cases, scheduling, receipt of documents, what's been approved in the monthly review. Post decided cases. Post status of others.*	*Need a decision on whether the Municipal Board will be a part of MN Planning for the long term. Assemble a team to work on system integration.*	Socio-Political Organizational

Technology Infrastructure

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide data, with tools and coordination	Present and promote results	Have a good Web connection: speed is OK. The Web server runs OK except during maintenance. The Web server is a 486 running Linux OS and Apache Web server. Web upgrades have taken a back seat to desktops .Do not anticipate any capacity problems from today's usage, but a change in the way the server is used, for example from new applications, could cause an overload. Would rather upgrade before problems occur. Changes to be aware of: plan to do a MN specific data set from the Census. This will increase load on the Web site substantially. The first large scale data will be available March 2001, and includes redistricting.	Web server capacity meets anticipated demand. The clearinghouse serves up larger data sets, with very high bandwidth. Today's customers are GIS professionals. The model of computing will go towards providing services rather than raw data, for example, creating maps on the fly. There will be more consumer oriented products.	*Upgrade server resources to handle new applications.*	Technology Infrastructure
Provide efficient and cost-effective services	Manage human resources	Telecommuting infrastructure: now have 4 modems at 28.8. Telecommunications policy is recent. Users can transfer files and use Groupwise or Netscape; they cannot run network applications. Some users have remote control. There are 20 users on the telecommuting list, but very few have a schedule for work at home.	*Telecommuting is supported for an expanding user base without undue stress on users and support staff.*	*Upgrade modem speeds to 56k. Set standards for client machines; will user-provided machines be supported? Train users for telecommuting: set expectations and limitations.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	In good shape for hardware and standard desktop software. Need to process large data sets: 100mb. Have state of the art desktops. Applications are current.	*Hardware and software stay current with industry standards.*	*Continue to maintain the processing infrastructure. Will constantly need more communications bandwidth and*	Technology Infrastructure

Technology Infrastructure

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
		Equipment status: in better shape now than ever. Agency is looking at the big picture. Now going from Unix to PC platform. Have high end plotters. Network for sharing data works well. Disk space is not an issue now.		*processing power. Have been successful in bringing new machines in to GIS users first, and rolling older machines to other agency users.*	
Provide efficient and cost-effective services	Provide information services	Ultra Sparc server was once used for all geographic processing. Now day to day geographic processing runs on local NT, and the machine functions as a file server.	*Get maximum value from hardware, then standardize environment.*	*Migrate to NT server environment when it is time to replace this machine.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Desktop OS: For most users, Win 95/98. For power users (geographic data), NT. Desktop OS inventory: Win 95/98: 70, Win NT: 15	*Desktop OS is current, and a minimum number of versions have to be supported.*	*Keep desktop OS up to date.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Server OS: Novell version: 5, Solaris version: 2.6 and 2.7, Linux version: Red Hat 5.2 and 6.0.	*Server OS versions are current.*	*Keep server OS versions current.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Software inventory: Office users: 85, Groupwise users: 85, Arcview users: 8.	*Desktop software is current.*	*Keep desktop software current.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Desktop PC counts: P133: 19, P200: 28, P350: 8, P450: 30 (TOTAL=85). Laptops: P75: 1, P200: 3, P300: 4, P400: 1 (TOTAL=9)	*Desktop and laptop hardware is current.*	*Keep desktop and laptop hardware current.*	Technology Infrastructure
Provide efficient and cost-effective services	Provide information services	Server & OS inventory: 1 Novell server: file sharing and email: office use. 1 Unix (Solaris) server: file sharing for geographic data. 4 Web-related servers: Web pages (Linux), mapserver (Linux), dBase files (Unix), Development (Linux).	*Servers provide a reliable and efficient processing infrastructure.*	*Evaluate need for a database server and Web applications server. Map server may change if Web mapping software is changed.*	Technology Infrastructure
Provide information, with context and interpretation	Obtain data	Much of the data needed for analysis is text-based, on paper.	*Data is in electronic form for easy analysis. There is no need to rekey data.*	*Set up scanning and OCR capability to convert paper based data to electronic form. Work with data sources to get data in electronic form.*	Technology Infrastructure

Technology Infrastructure

Strategy	Function	Current State / Condition	Future Target / End State	Realization Plan	IR Element
Provide information, with context and interpretation	Organize and analyze data	Security with private data: new: juvenile data on Jaz drive is kept off net: need permission from the Supreme Court to access. Move secure data on floppy.	If justified, become part of the statewide secured network.	*Contact planning group for the secured network. Analyze the benefit of improved data access vs the cost of communications and security.*	Technology Infrastructure
Provide information, with context and interpretation	Organize and analyze data	For performance, users move data to local drives for analysis; including Access, Approach, SPSS, and mapping. SPSS runs against a local database running on NT standalone. Performance is maxed out. Full data set includes years 85-98. When possible, extract counties or some other subset for analysis.	*Power users can run analyses efficiently.*	*Extend high speed network connections to the desktop for power users. Allocate newest PC's to the heaviest users.*	Technology Infrastructure
Provide information, with context and interpretation	Present and promote results	Apache and Linux generally run well. Need performance analysis: can't tell where bottleneck is when pages are slow.	*Performance problems are detected before there are user complaints.*	*Evaluate Web performance monitoring tools.*	Technology Infrastructure
Provide reliable and secure systems	Provide information services	Need a virus strategy. Have had problems with virus checkers.	*Virus protection includes servers, desktops, email, and Internet.*	*Evaluate anti virus programs. Select and deploy.*	Technology Infrastructure
Provide reliable and secure systems	Provide information services	Have not had success with license inventory.	*Have an automated way to track hardware and software inventory.*	Evaluate Zen Works.	Technology Infrastructure
Provide reliable and secure systems	Provide information services	Tape backup is available for Unix and Novell. Will need to expand the tape capacity for Novell if the RAID array is filled. The time needed to make a full backup is a problem (14 hours/Novell, 8 hours/Unix): full backups are only run on Friday night.	*All data is backed up at a frequency that allows for recovery in a time suitable for business needs.*	*Monitor tape backup time and capacity.*	Technology Infrastructure
Provide reliable and secure systems	Provide information services	Some server problems have been caused by A/C problems. The A/C system is ancient and needs to be replaced.	*A/C system is reliable.*	*Upgrade A/C system.*	Technology Infrastructure

Inventories

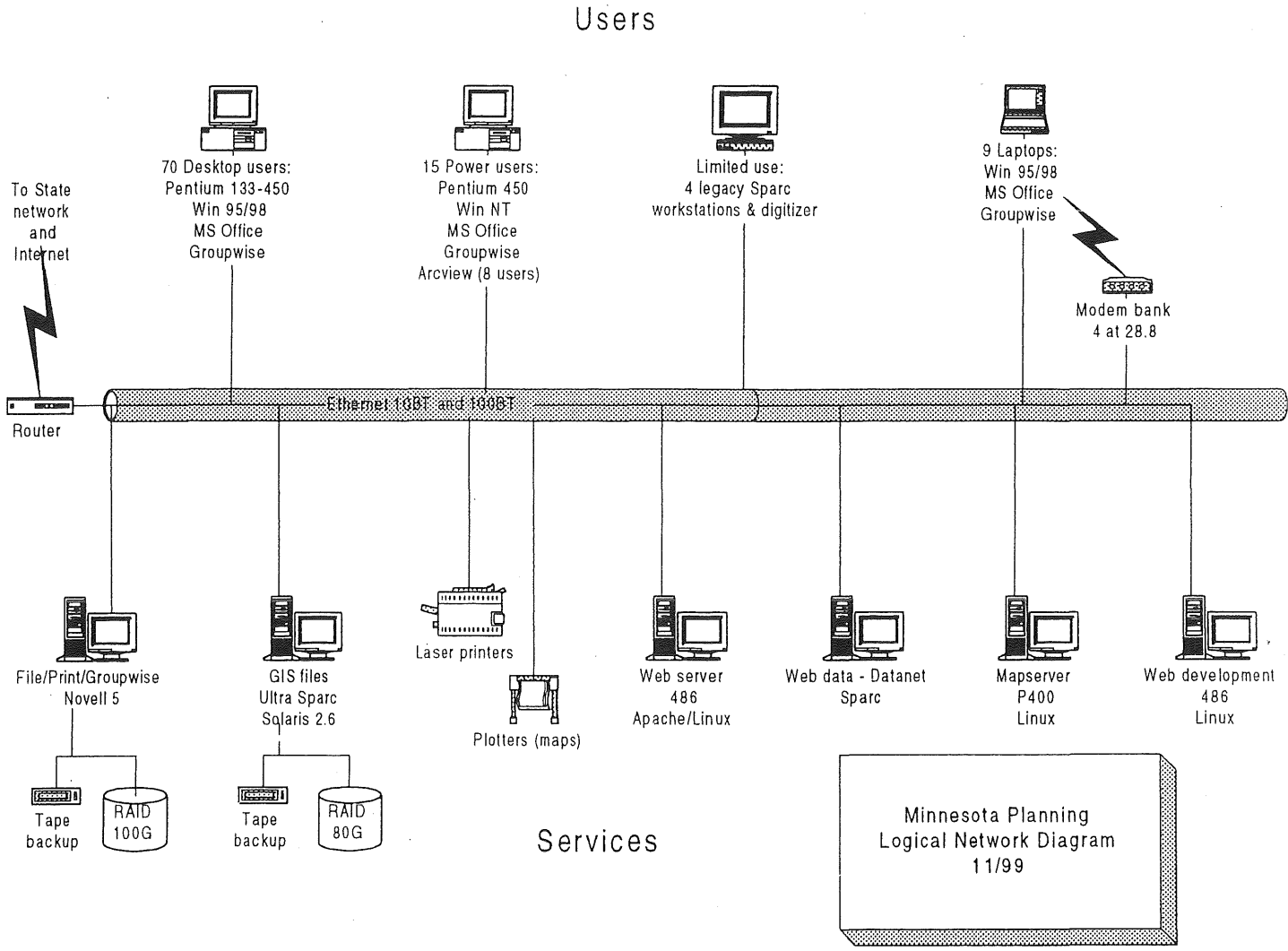
Desktop Hardware and Software

Minnesota Planning User Hardware and Software Inventory, September, 1999

Hardware	Speed							
Type	75	133	200	300	350	400	450	***Total***
Desktop		19	28		8		30	**85**
Laptop	1		3	4		1		**9**

Packaged Software	Qty
Operating System	
Win 95/98	79
Win NT	15
Standard	
MS Office	85
Groupwise	85
GIS	
Arcview	8
Atlas	
Publishing	
Adobe Acrobat	
PageMaker	
FrameMaker	
Macromedia Freehand	
Adobe Photoshop	
Transferter Pro	
Adobe Illustrator	
Web	
Netscape Composer	
MS FrontPage	
Other	
SPSS	
FaxPro	
FoxPro (Municipal Board)	

Network and Server Diagram



Consultant's Observations and Recommendations

The key themes that emerged during the planning process are:

Managing data as an Enterprise asset. Much effort is spent cleaning and structuring data from outside sources before analysis can begin. This is typically done by the team with primary responsibility for the subject area. But in most cases, data from multiple sources is used together in an analysis; for example, population, income, and crime by geographical area over time. Planning data in a comprehensive fashion will make such analyses easier to do, increase the range of questions that can be answered, and reduce the time to respond to requests.

Maximizing staff effectiveness. Information analysis is done by the staff of Minnesota Planning in the normal course of doing business, not by Information Resource professionals. So, rather than 'doing', the IR efforts here are focused on 'enabling'. This includes training users, providing effective tools, designing processes to support smooth handoffs, and providing support for information users. Challenges include motivating staff to participate in training and providing desktop applications support.

Increased communications. Technology provides new ways to communicate with Minnesota Planning's target audience and with the citizens of Minnesota. The Web allows much more information to be presented, at a much lower cost and with more flexibility. At the same time, it can gather information and feedback. The Agency can 'push' customized messages to interested parties by tracking interests and using email or customized Web pages, including managing information throughout the regulatory process. But these capabilities will require a paradigm shift from a page-oriented Web site to a data-driven Web site.

Currently, there are not adequate resources assigned to accomplish these goals. Work in underway to find a Webmaster. Similarly, it will be necessary to obtain or assign resources to enterprise data and staff effectiveness. Until now, IT has been focused on providing a technology base. Involvement in applications and data to support the business strategies is a new role.

The Agency also needs to establish an Information Resource steering committee. The involvement of Agency business management will be essential in prioritizing and implementing Information Resource projects based on business strategies.

Recommended Next Steps

Form a steering committee. To help ensure that Information Resource efforts stay aligned to the business strategies, a steering committee composed of business and IT staff should be formed. This body will make the priority decisions for carrying out the Information Resource strategies with the limited resources available.

Review and revise the plan. In some areas there is a recognized need, but the future state, or a way to realize the future state, are not completely defined. There may also be options to select from or further research to be done. These areas should be discussed and completed.

Prioritize projects. Realization projects should be ranked for their potential to impact business strategies, considering the importance of the strategies and the leverage Information Resources can provide. This step is an initial attempt at triage; with limited resources, you may want to avoid detailed planning for projects which do not fall in your planning horizon.

Estimate resources. Further elaboration should be done with high priority projects to define the resources required.

Obtain or assign resources. The needed resources must be identified. These may be existing or new, internal or external. This may require a request for additional funding.

Reprioritize realization plans. Based on resources obtained, review and adjust priorities to ensure the best mix of projects.

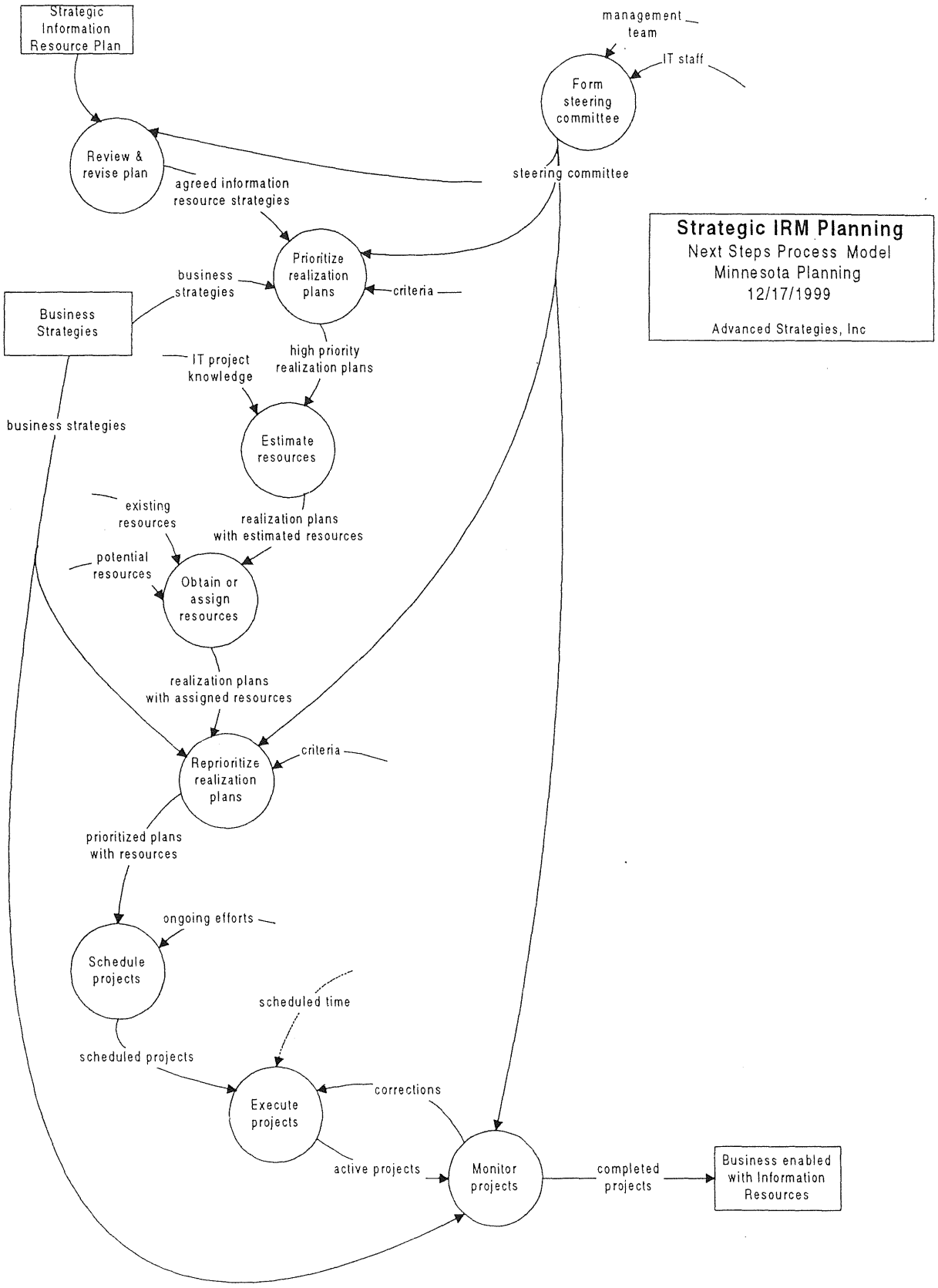
Schedule projects. Projects can be scheduled based on resources assigned, balanced with other ongoing efforts.

Execute projects. Do the work.

Monitor projects. The steering committee should compare project deliverables with the business strategies to measure success. Corrections can be made to project execution.

The following process model illustrates the steps from strategic plan to enabled business:

Recommended Next Steps Process Model



Appendix

The following information was used to compile the Strategic Information Resource Plan. Both paper and electronic versions of this information are included with this report.

Detailed Interview Notes

Participants

Interview Notes

JDA Turnaround Documents

September 24, 1999

November 11, 1999