



Oregon Geographic Information Council

**Oregon Strategic Plan
for
Geographic Information Management**

**Oregon Geographic Information Council
September 15, 2010**

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Thanks are also due the many members of Oregon’s diverse GIS Community for their active participation in the Strategic Plan Listening Sessions that were held in the summer of 2009. The ideas and input gathered at those sessions were essential, and form the foundation of this document.

And finally, a debt of gratitude is owed to all who helped to develop and implement the previous OGIC Strategic Plans in 1996 and again in 2001.

Executive Summary

Information about people, places and events in Oregon, can be integrated by location (geography) and represents nearly all information used by government organizations and their partners to manage resources on behalf of Oregon's citizens. Coordination among and between government organizations and their partners to efficiently collect, use and maintain this information using geographic information systems (GIS) has steadily improved resource management over the past several decades. But economic pressures, increased population, and a rapidly increasing amount and complexity of information required for effective resource management make it necessary to dramatically improve the way geographic information is managed.

Oregon has a number of key strengths that have helped us establish a strong enterprise approach and that will help us take advantage of opportunities as they present themselves. The three primary strengths are:

- The Oregon Geographic Information Council (OGIC) governance structure that promotes coordination
- Framework data development activities
- Data exchange standards

There are several opportunities of which the Oregon GIS community can take advantage in the next several years. The first of these opportunities is federal and state economic stimulus funding. Because the GIS community has worked together to develop many critical Framework data sets and supported the development of an enterprise GIS technology environment and the establishment of an enterprise license for ESRI software, the Geospatial Enterprise Office (GEO) was positioned to lead the development of a web-based tool that uses GIS to help agencies plan the location of stimulus projects and measure the impact of those projects.

Another key opportunity is the proliferation and importance of systems that continue to surface at the municipal, county, and regional levels of government throughout the State in response to a wide range of needs.

There are also many opportunities to coordinate and collaborate with federal agencies as they collect various elements of Framework data throughout Oregon. Oregon is in a relatively good position to work closely with federal agencies in this regard due to our highly collaborative coordination and governance infrastructure.

OGIC's navigatOR initiative incorporates all aspects of the enterprise approach to GIS development in Oregon. A business case for navigatOR was conducted in 2006 and refreshed in 2007 (see Appendix D for a summary of its Premise and Proposal). The business case and a number of additional associated documents are available on the [GEO website](#). The navigatOR Implementation Plan will be updated on the basis of this Strategic Plan.

Some of the challenges for GIS coordination in Oregon that must be overcome are:

- Lack of knowledge by many government agencies regarding geographic information and GIS technology
- Lack of understanding by some leaders of the fundamental importance of location for decision making
- Lack of good model agreements for collaboration and data sharing
- Adequate statewide communication regarding GIS coordination activities, issues, projects, and programs
- GIS coordination governance structure that is non-inclusive, weighted too heavily toward state government
- Insufficient funding for local governments to support geographic information development and maintenance
- Insufficient staffing to support GIS needs at the state and local government levels
- Limited use of GIS to manage geographic information for socio-economic purposes in Oregon
- Limited use of metadata to document data sets created over the years
- Lack of metrics related to the costs and benefits of GIS use in Oregon
- Outdated statutes related to data privacy, public access to data, and liability for data

The Strategic Plan has been developed to take advantages of the strengths and opportunities and mitigate the weaknesses and risks. The mission of the Oregon Geographic Information Council (OGIC) is to support the business of Oregon government by enabling efficient and effective use and sharing of geospatial information. The Council envisions an environment for developing and managing Oregon's geographic information assets that:

- Encourages and supports the contributions of everyone in the Geographic Information Community;
- Leverages the human, technical, and information resources of the Geographic Information Community to accomplish measurable statewide and local objectives and to solve real problems;
- Provides an organized framework for data sharing of spatial and non-spatial applications and information;
- Raises the awareness of citizens and businesses about the uses and benefits of all geospatial technologies;
- Serves as a facilitator between geospatial technology and the broader realm of information technology;
- Spreads the benefits of geographic information and geospatial technology broadly and equitably to improve the quality of life and the environment for Oregon's citizen;
- Prevents or discourages misuse or abuse of public data.

The Strategic Plan relies on a basic foundation composed of five themes, each incorporating goals and objectives, as follows:

Management and Coordination

Goal M1: Develop and Implement a Revised Funding Model for Geospatial Coordination

Goal M2: Increase Inclusiveness of the Geospatial Governance Model

The Geospatial Enterprise Office and framework data development funds are resourced by a voluntary budget assessment against state agencies. This assessment is insufficient to complete the timely initial development of Oregon's 14 framework datasets and will not fund maintenance/stewardship of these data. The governance and funding models for Oregon geospatial information management must be revised to increase the participation of non-state government and operational entities. Simultaneously, we propose to restructure the coordination governance environment so that geospatial information investments reflect priorities and resource commitments from the broadest enterprise of geospatial information contributors and consumers to provide more equitable representation in the governance of geospatial coordination.

Information Access

Goal I1: Enable and Expand Data Sharing and Accessibility

Goal I2: Improve Communications within the Geospatial Information Community

Oregon geospatial data users cannot easily access the authoritative spatial data needed to support their business requirements in consistent and predictable ways. Progress has been made in the last few years toward resolving this issue with the development and implementation of Oregon Explorer, the navigatOR web portal. Additional customization is needed to improve the functionality of the site and to include access to a more robust set of data, metadata, and data management tools.

The ability to gain access to authoritative, complete, consistent, accurate, and current spatial data is also constrained by multi-level legal interpretations concerning the confidentiality and liability aspects of data provision and use. The GIS community proposes that we resolve these issues by way of a single legal liability and confidentiality interpretation, and a resourced, consistent communications effort.

Data Management

Goal D1: Formalize and Improve Data Stewardship Model

Goal D2: Accelerate Development of the Oregon Geospatial Data Framework

The concept of stewardship is about service by one or more organizations to the enterprise in professional management of a data set for the collective good. With most of the Framework data themes, no single organization or agency has a mandate or dedicated funding to provide stewardship. Stewardship must be assigned and performed early in the life cycle of a data theme so users will be able to develop applications based on assured access to high quality data to support their individual business processes and duplicated data development can be prevented.

Data development remains the largest and most costly effort required to fully implement the navigatOR program. Nearly all of the statewide Framework themes, including several of those recognized at the national level are incomplete. An organized, fully funded enterprise effort working through the Oregon Framework Implementation Team and the Oregon Geographic Information Council is necessary to complete initial statewide Framework development.

Services and Support

Goal S1: Expand and Improve Customer Service, Support and Training

In the past decade, the need for formal GIS training has become much more pronounced as standardized geospatial data has become readily available for use with GIS. In addition, many GIS users and others around the state have expressed a need for assistance in understanding where to find specific data sets and how to use the data once they find it. Opportunities to work with academic institutions and others to provide GIS education and training must be coordinated and organized to better meet the needs of the user community.

With the expanded use of GIS and geographic information at all levels, there is a growing need for services and service providers. Those services include development of geographic information and development of GIS applications, including web-based applications. GEO will provide support to the GIS community in terms of helping to match up service providers with users that need services, as well as providing procurement guidance when appropriate.

Technology Transfer

Goal T1: Promote Broader Accessibility and Use of Geographic Information Systems Technology

Outreach to policy makers, mid-level managers and others unfamiliar with or uninvolved in GIS and geographic information use will pay dividends by promoting more data development and data sharing, resulting in less duplication of effort and more efficient use of resources. The extension of the regional GIS service center concept, employed by the Portland Metropolitan Planning Organization and the Lane Council of Governments, to other parts of the state, particularly the rural areas, will provide the GIS staff, information and technology necessary to support the business of government in those areas.

Geographic information is a cornerstone of the State's Enterprise Information Resource Management Strategy. GIS must become more closely integrated with the information technology infrastructure, thus enabling the performance of processes and the resolution of problems that cut across departmental, jurisdictional, and governmental boundaries.

Section 1: Introduction

GIS Technology and its Role

This Strategic Plan is about the management of geographic information, which is commonly associated with, and manipulated by a Geographic Information System. Much of what you will read in this Plan in some way involves a Geographic Information System. What is a Geographic Information System (GIS)? One answer is that GIS is a combination of computerized mapping and database information. Another is "An organized collection of computer hardware, software, geographic data and personnel designed to efficiently capture, store, update, manipulate, analyze and display all forms of geographically referenced information" (from "Understanding GIS - The ARC/INFO Method, ESRI 1991).

Most people's understanding of GIS will fall somewhere in between these two explanations. The key concept that distinguishes GIS from other information systems is that GIS maintains a SPATIAL component. Another way to say this is that GIS uses locational relationships. A conventional database may tell us much about an event or a place, including when and where it occurs, but it will fall short if we ask it about the event's or place's location in relationship to something else.

For example, databases of geographic information commonly developed by government might include such things as population, transportation routes, city and county boundaries, water quality, land cover, etc. We could ask these databases such questions as:

- How many streams in Oregon have water quality limitations?
- What forest types are found in Oregon?
- In a given urban area, how many people use public transit?
- On average, how long does it take for an emergency vehicle to arrive at an incident?
- How many foster children live in a given county?

But, if we need to know answers to the following questions, we need to use GIS technology:

- How many miles of water-quality limited streams are within an Urban Growth Boundary?*
- How many acres of late seral conifer forest types by ownership are there in Oregon?*
- What percentage of the population in the Salem area now lives within 5 minutes walking distance of public transit?*
- Where are the locations that a new fire station could be placed to optimize response time?*
- How can foster children be matched with foster homes to keep those children in the same school attendance area?*

These are the kinds of questions policy makers need to ask when making decisions. Geographic information is often displayed on maps and it is sometimes assumed that a GIS only produces maps. This is not true. Sometimes the results from spatial questions do not require maps to be useful. An example might be a parcel delivery company using GIS to calculate the most efficient routes for a given truck with a given load. The output from the GIS might be an ordered address list for the driver to follow. The primary functions of GIS are spatial analysis, management, and manipulation of data. Maps are a means of visualizing the results.

Government agencies at all levels in Oregon are using GIS tools and geographic information for such diverse things as legislative reapportionment, transportation planning, emergency response, environmental protection and modeling, economic development, natural resource management, and property appraisal. GIS technologies and the use of geographic location as a common key enable information from many sources to be integrated, complex analyses to be performed quickly and efficiently, difficult problems to be solved, and better decisions to be made. Making decisions based on the analysis of information is a fundamental function of government. With the right information and analytical tools, government leaders can make wise decisions.

Approximately 85% of the information used by government in the decision making process is geographic information; that is, any information that can be associated with a location. The large volume of geographic information used by government agencies on a daily basis, combined with the fact that most problems cross one or more jurisdictional or departmental boundaries makes geographic data an indispensable asset and GIS a valuable and vital tool for managing that asset.

Purpose and Contents of *Strategic Plan*

The Strategic Plan for Geographic Information Management presents a statewide enterprise perspective on the management and coordination of geographic information in Oregon for all levels of government. In this context, strategic planning indicates a comprehensive, long-range view of geospatial information management that will provide focus and direction for the more detailed tactical planning that must occur on a routine basis within all organizations comprising the GIS community in Oregon. Furthermore, this Strategic Plan will provide the basis for a more detailed tactical plan for the ongoing implementation of the statewide GIS utility known as navigatOR. The Strategic Plan will be revised and extended every two years and covers a five year horizon. The Strategic Plan has the following key purposes:

- To give a long-term strategic direction and foundation for geographic information management in Oregon.
- To define and support an organizational environment for accomplishing geographic information management goals.
- To promote geographic information management programs and initiatives, within the context of the overall government information resources enterprise.
- To provide programmatic objectives for more detailed tactical plans and programs.
- To provide a vision and overarching strategy within which all geographic information stakeholders can develop strategies and tactics for improved collaboration, coordination, and geographic information management.

Strategic planning for management of geographic information is an ongoing process. The strategic planning process is:

- a dynamic guide for detailed implementation of individual elements of the Plan
- a central mechanism for coordinating and integrating elements of geographic information and technology development throughout the State without loss of planning perspective
- the key instrument for meeting inevitably changing circumstances without loss of momentum or overall direction.

The first section of the Plan *defines geographic information and GIS*, and indicates the scope of the Plan. **The second section** presents the *current situation* for statewide coordination of GIS and geographic information management. This includes a definition of stakeholders and the *organizational environment* within which GIS activities and geographic data exchanges occur. This section also speaks to the *strengths and opportunities* for geographic information management, as well as the *weaknesses and threats*.

Section 3 sets forth the *Vision for geographic information management* in Oregon, and establishes the *strategic foundation* and direction for all objectives and work carried out under the banner of the Plan. A set of *seven high-level goals* is presented as a basis for work to be carried out through this Plan.

Section 4 presents the agenda for action and organizes efforts to accomplish goals, providing information about *specific programmatic objectives* in support of each goal. A projected *timing and assignment of responsibilities* are included in this section. **Appendix A** includes a brief *history* of geographic information coordination in Oregon and a description of the *strategic planning process* that led to the development of this Plan. **Appendix B** contains the latest *Governor's Executive Order* related to geographic data management. **Appendix C** presents the raw results from the "Let's Talk" community listening meetings that were held around Oregon in the summer of 2009. **Appendix D** presents the Premises and Purposes section from the navigatOR Business Case, and **Appendix E** lists the current membership of the Oregon Geographic Information Council, pursuant to Executive Order 00-02.

Section 2: Current Situation

Stakeholders

The coordinated development and use of geographic information across Oregon has been led by the State through the Geospatial Enterprise Office in the Department of Administrative Services, but has been highly dependent on many stakeholders at every level of government. The enterprise in Oregon is defined by Executive Order to include all three branches of State government, every other level of government, and the academic sector. It has been expanded in practice to include the private and non-profit sectors, as well as all other elements of the GIS community. The table below indicates the stakeholders that make up the GIS enterprise in Oregon, and their participation in the strategic planning process.

Table 2-1: Table of Stakeholder Participants

Stakeholder Group	Part of Enterprise	Participated In Planning
Municipal	yes	yes
County	yes	yes
State	yes	yes
Tribal	yes	yes
Federal Regional	yes	yes
Federal Headquarters	no	no
Regional government	yes	yes
Private Sector	yes	yes
Non-Profit Organizations	yes	yes
Academia	yes	yes
General Public	no	no

Many of our stakeholders work across state boundaries within the Pacific Northwest, so we have expended considerable effort and resources to coordinate and collaborate with our partners in surrounding states, particularly Washington and Idaho. These efforts have been mostly productive, with some fits and starts. In particular, we continue to be successful at developing Pacific Northwest transportation and hydrography data sets using shared standards and data models.

Business Needs Addressed by Coordinated Use of Geographic Information

The following list represents many of the enterprise business activities with which our stakeholders have been involved, and with which geographic information (location) plays a critical role.

- Manage Urban Growth
- Implement the Oregon Plan for Salmon Recovery
- Achieve the Vision of the Progress Board
- Provide Education
- Reduce Growth of Government
- Manage Water Quality
- Manage Forest Lands
- Emergency Planning and Response
- Transportation Planning
- Implement the Oregon Health Plan
- Allocate Increasingly Scarce Human Resources
- Improve Effectiveness of Service Delivery

All of these business activities require the sharing of locational information across organizational or jurisdictional boundaries. Many also require the sharing of locational information across policy areas, e.g., environmental health, human health and welfare, public safety, community sustainability, economic prosperity. That kind of information sharing requires an enterprise approach that bridges traditional mandates and creates formal and informal connections between the silos of government.

The National States Geographic Information Council has developed nine criteria by which to evaluate the maturity of a state GIS coordination program. Table 2-3 indicates how Oregon’s program meets those nine criteria.

Table 2-3 – NSGIC’s Nine Criteria

NSGIC Criteria	Status (Non-Existent=RED; Partially in Place=YELLOW; Completely in Place=GREEN)	Status Description
1. A full-time paid coordinator position is designated and has authority to implement the state’s business and strategic plans.	Completely in place	Full-time, paid GIS Coordinator is designated with authority to implement business and strategic plans.
2. A clearly defined authority exists for statewide coordination of geospatial information technologies and data production.	Completely in place	Executive authority for the Council derives from Governor’s Executive Order, with implementation authority given to the Dept of Administrative Services (Director & delegated authority to State Chief Information Officer). Local, regional, tribal & federal Council members participate, but do not provide resources for statewide coordination activities.
3. The statewide coordination office has a formal relationship with the state’s Chief Information Office	Completely in place	Oregon’s statewide coordination office reports to the state’s CIO.
4. A champion (politician or executive decision-maker) is aware and involved in the process of geospatial coordination.	Completely in place	State CIO is completely engaged as Chair of the Council. Chair of the Transportation Commission is fully engaged in the process. Directors of most major agencies are aware and engaged.
5. Responsibilities for developing the National Spatial Data Infrastructure (NSDI) and a State Clearinghouse are assigned.	Completely in place	State Clearinghouse exists as a core component of the Geospatial Enterprise Office (GEO). Development of NSDI is relevant in context of creating state spatial data infrastructure (SSDI).
6. The ability exists to work and coordinate with local governments , academia, and the private sector.	Completely in place	Ability to work and coordinate is present and happens through the Council and the Framework Implementation Team work groups.
7. Sustainable funding sources exist to meet project needs.	Completely in place	Sustainable funding is obtained via state agency assessment (based on FTE and importance of geography to satisfy agency missions/objectives). Those funds are leveraged against other state, local, private funds to meet project needs. More funding is always needed, of course.
8. GIS Coordinator has the authority to enter into contracts and become capable of receiving and expending funds.	Completely in place	Statewide GIS Coordinator has contracting authority individually up to a certain amount, and uses the broader contracting authority of the CIO for geospatial projects.
9. The Federal government works through the statewide coordinating authority.	Completely in place	Most federal agencies are effective and committed partners that work with and through GEO and Statewide GIS Coordinator – some federal agencies still approach local data providers directly, without coordination.

Strengths and Opportunities

The ongoing development of geographic information and GIS technology within all agencies and organizations in Oregon benefits from effective coordination. Such coordination ensures that the greatest possible benefit is gained from each investment that agencies make in data and technology. Sharing geographic information easily and quickly between agencies and organizations is one of the most important benefits to be derived from coordinating and managing locational information with an enterprise perspective.

Oregon has a number of key strengths that have helped us establish a strong enterprise approach and that will help us take advantage of opportunities as they present themselves. The three primary strengths are:

- Organizational environment that promotes coordination
- Framework data development activities
- Data exchange standards

The coordination environment in Oregon is extensive and well-developed. It includes the organizational structure illustrated in Figure 2-1, and Table 2-4 describes the role and composition of the main organizational entities.

Figure 2-1: Organizational Environment for the Oregon Geographic Information Council (OGIC)

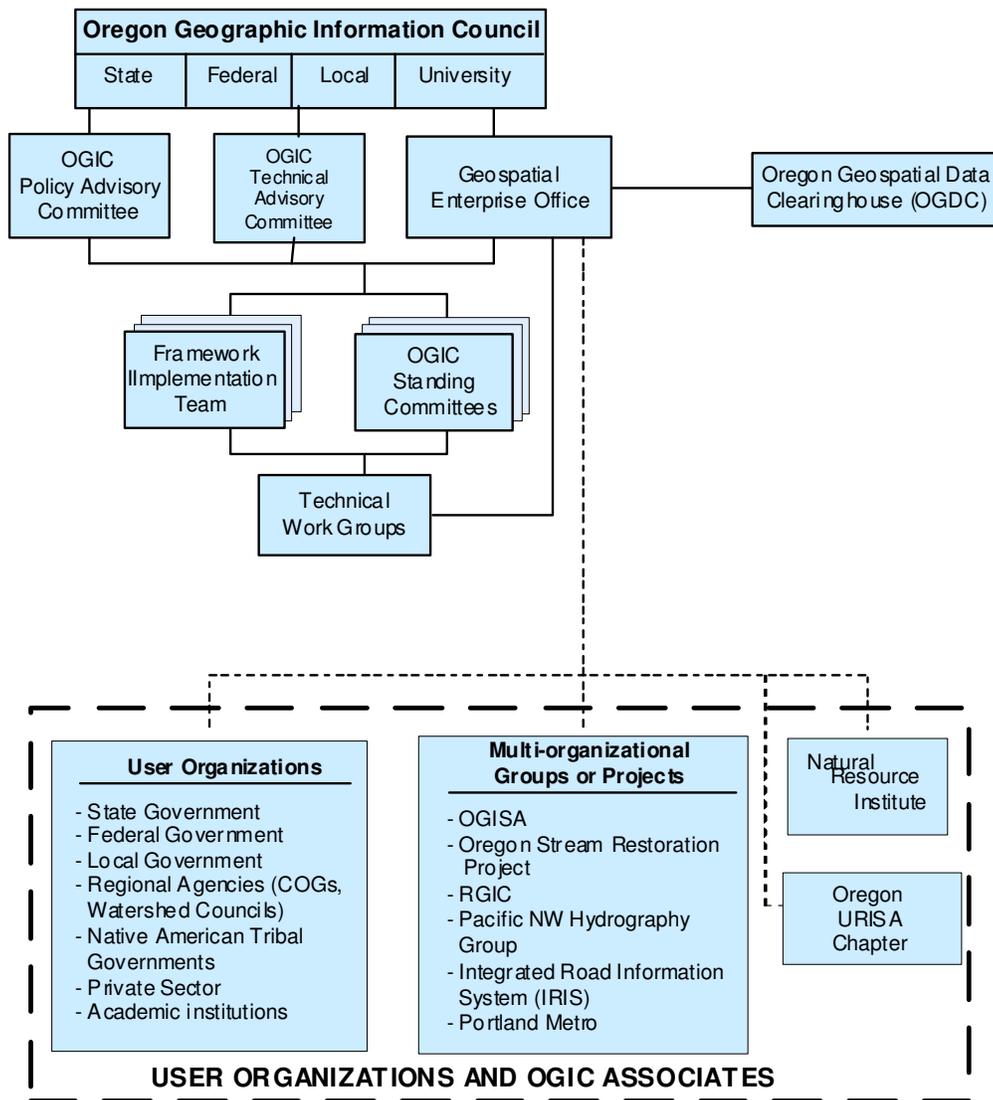


Table 2-4: Description of OGIC Organizational Entities

OGIC Organizational Entity	Purpose	Participation/ Members	Comments
Oregon Geographic Information Council	Policy formation and approval, response to strategic concerns, approval of budget, support for major initiatives, general oversight.	Director or policy-level designee from State agencies, local govts., higher education, federal agencies, and other designated entities.	Chair is State Chief Information Officer. Meets quarterly.
Policy Advisory Committee	Role and responsibility delegated by Council. Helps develop and get approval for budget, assigns staff resources for OGIC activities, makes recommendations to Council. Has authority to approve formation of Committees.	Managers with direct responsibility for GIS budget & policy matters from state agencies and designated local and federal agencies, regional govts., tribal organizations, and higher education.	Chair is Statewide GIS Coordinator. Formal meetings quarterly or when called.
Technical Advisory Committee (GPL)	Role and responsibility delegated by Council. Analyzes and provides recommendations on technical issues to Council. Comprised of expanded GIS Program Leaders group. Has authority to approve formation of Committees.	Operational GIS managers from state, local, federal, tribal, regional, and higher education organizations.	Formal meetings monthly. Regular data development and professional networking opportunities
Geospatial Enterprise Office and GIS Coordinator	GIS Coordinator and staff serve as staff to the Council, Policy Advisory Committee, and GPL. Provides administrative support to Council and all OGIC groups, as needed, coordinates facilities and supports work of committees; carries out technical, administrative, and outreach work necessary to meet OGIC goals.	State GIS Coordinator and small administrative and technical support staff.	Reports to the State Chief Information Officer.
Standing Committees	Carry out work associated with on-going tasks (standards, framework data). The Framework Implementation Team is one such Standing Committee with a Subcommittee for each Framework theme. Report directly to OGIC.	May include members of Policy or Technical Committee and other appointed participants from user organizations (public agencies or private firms as appropriate).	GIS Coordinator in coordination with Policy &/or Technical Committee recruitrecruits members and sets work agenda. Committee may form subcommittees or Work Groups.
Technical Work Groups	Teams formed with a specific purpose and schedule. They are specifically commissioned with a specific objective after which they are dissolved.	May include any appointed personnel from organizations participating in the statewide GIS program.	May be created by the GIS Coordinator, the Policy or Technical Committee, or a Standing Committee.
Geospatial Data Clearinghouse	Organization (staff and computing infrastructure) supporting the creation and maintenance of, and access to, Framework data and related core services in support of OGIC.	Administrative location, staffing and technical support environment is in the Dept. of Administrative Services, under direct supervision of Statewide GIS Coordinator.	The Clearinghouse function benefits from a very close relationship with the State Data Center in its present location.

Over the past decade, Oregon's Framework Implementation Team (FIT) has become a very important and highly functional component of our organizational environment. Through FIT activity, many Framework themes, as noted later in this section, as well as 19 data content or exchange standards, have been developed, and we have begun to formalize the stewardship of Framework data layers.

We have developed a strong, close connection between the GIS enterprise approach and the Information Technology enterprise approach that is guided in state government by the Chief Information Officer Council (CIOC). navigatOR, our enterprise GIS initiative, remains a key priority in CIOC’s Enterprise Information Resource Management Strategy.

The navigatOR initiative incorporates all aspects of the enterprise approach to GIS development in Oregon. A business case for navigatOR was conducted in 2006 and refreshed in 2007 (see Appendix D for a summary of its Premise and Proposal). Development of the business case provided an opportunity to quantify the benefits and costs associated with the statewide enterprise GIS approach. The business case and a number of additional associated documents are available on the navigatOR webpage at the [GEO GIS Utility website](#). The navigatOR Implementation Plan will be updated on the basis of this Strategic Plan.

The Framework data sets that have been created and/or updated and improved over the past decade are another key strength of the Oregon GIS community. Table 2-5 shows the Framework Themes that have been defined for Oregon and their current status and availability. All Framework data are available from the GEO website for download. The completed data sets are also available for streaming via Web Mapping Services. In addition, the Framework data and all other available geospatial data are available through a cooperative agreement with the Oregon State University’s Valley Library and the Institute for Natural Resources via Oregon Explorer, [www.oregonexplorer.info](#), the navigatOR web portal. This web portal provides an extensive and growing set of tools and functionality for finding, manipulating and analyzing geospatial data in and for Oregon.

Table 2-5: Status Table on Framework Layers

Framework Layer	Status (Non-existent, Incomplete, Complete)	Available to NSDI (Yes/No)
Geodetic Control	Complete	Yes
Cadastral	Incomplete	No
Orthoimagery	Complete	Yes
Elevation	Incomplete	Yes
Hydrography	Complete	Yes
Administrative Units	Incomplete	Yes
Transportation	Incomplete	No
<i>Other Base Themes of Significance:</i>		
Bioscience	Incomplete	Yes
Geoscience	Incomplete	Yes
Preparedness	Incomplete	Yes
Climate	Complete	Yes
Utilities	Incomplete	No
Structures/Addresses & Places	Incomplete	Yes
Land Use/Land Cover	Incomplete	Yes

The third key strength of the GIS community in Oregon is the set of widely adopted data content and exchange standards that have been developed within the FIT structure and endorsed by OGIC. There are 19 standards that have been developed so far, with more under development. The development of standards for each Framework theme is part of the charge given to FIT by OGIC. The standards are developed by the FIT subcommittees and then widely distributed to gain consensus in the statewide GIS community. Once it appears that consensus has been achieved, each standard is taken to a Framework Forum for final approval by the participants. The entire GIS community is invited to attend these forums. If anyone at the Forum raises an objection to the standard, the objection is either dealt with at the forum or taken back to the subcommittee before the standard is approved. Once a standard is approved, it goes to OGIC for endorsement. In this way, OGIC assures that the standards are as widely accepted as possible and that they will be used by the entire GIS community, thereby resulting in shareable, exchangeable geospatial data.

There are several opportunities of which the Oregon GIS community can take advantage in the next several years. The first of these opportunities, federal and state economic stimulus funding, is being exploited as this Strategic Plan is being written. The State Legislature appropriated \$175 million to be used for stimulus projects around the state this year. In addition, Oregon expects to

receive approximately \$3.9 billion in federal stimulus funds for projects and programs in thousands of locations around the state. Because the GIS community has worked together to develop many critical Framework data sets and supported the development of an enterprise GIS technology environment and the establishment of an enterprise license for ESRI software, the Geospatial Enterprise Office (GEO) was positioned to lead the development of a web-based tool that uses GIS to help agencies plan the location of projects and measure the impact of those projects.

Due to the readiness of the technological environment and base data, as well as our relationship with ESRI, GEO has also been able to develop GIS websites to present the stimulus funding information transparently to the public. GEO has worked very closely with the Governor's Office on all of the stimulus website and reporting tools. That connection with the Governor's Office has resulted in work with several other state agencies to customize the stimulus GIS tools for other purposes. Many agencies that had not previously used GIS are now beginning to explore its use as a result of these efforts. That is likely to result in more extensive demand for and use of geospatial data, more data sharing, and ultimately a greater ability for government to use geospatial data and GIS to solve problems and make better decisions.

Another key opportunity that has begun to present itself over the past few years is the proliferation and importance of systems that continue to surface at the municipal, county, and regional levels of government throughout the State in response to a wide range of needs. Although most geographic information originating at a state agency, or federal agency, level is not sufficiently precise for local government use, some clearly is of significant value (e.g., soils, flood plains, roads, environmental contamination, and demographics). Likewise, it is apparent that a significant amount of geographic information originating at the local government level is extremely valuable, for some purposes, to state and federal agencies (e.g., parcels, streets, buildings, land use, zoning, survey control points, hazardous chemical sites). Much of the work to establish compatibility and standards to facilitate such data sharing, when appropriate, has been done or is ongoing. Stronger relationships between GIS initiatives at the State and federal level and at the local government level have been developed over the last decade. The same rationale can be extended to potential data sharing and coordination with regulated utilities and other private-sector entities and with the academic community.

The scope of a truly enterprise, fully integrated geographic information management plan for Oregon, and the timetable for completion of such a plan, will be determined, to a considerable degree, by technological changes, legislative and budgetary constraints upon resources, and progress of GIS initiatives within county, municipal, and academic environments and the private sector.

There are also many opportunities to coordinate and collaborate with federal agencies as they collect various elements of Framework data throughout Oregon. We have found that Oregon is in a relatively good position to work closely with federal agencies in this regard due to our highly collaborative coordination and governance infrastructure. When a federal data collection effort is initiated, GEO is routinely contacted and we are able to mobilize resources from appropriate stakeholders at various levels of government, academia and the private sector to assist with the effort. This has been the case with many Framework data themes, including elevation, hydrography, imagery, cadastral, geoscience, preparedness, structures/addresses, and bioscience, and will continue to be a key opportunity with which we will engage our federal partners.

Current Limitations and Challenges for GIS Coordination in Oregon

Some of the challenges for GIS coordination in Oregon that must be overcome are:

- Lack of knowledge by many government agencies regarding geographic information and GIS technology.
- Lack of understanding by some policy makers of the fundamental importance of location for decision making.
- Lack of good model agreements for collaboration and data sharing, particularly across organizational boundaries and policy areas.
- Adequate communication to all parts of the state regarding GIS coordination activities, issues, projects, and programs
- GIS coordination governance structure that is non-inclusive, weighted too heavily toward state government
- Insufficient sustainable funding at the local government level to support geographic information development and maintenance
- Insufficient staffing to support GIS needs at the state and local government levels
- Limited use of GIS to manage geographic information for socio-economic purposes in Oregon.
- Limited use of metadata to document data sets as they have been created over the years.
- Lack of metrics related to the costs and benefits of GIS use in Oregon.
- Outdated statutes related to data privacy, public access to data, and liability for data.

Cooperative management of geographic information residing at multiple locations and in various organizations will develop the potential to treat such information as a governmental asset in its own right, ready for application to any function that will benefit from

its use. It will also develop the potential to link geographic data to many other databases maintained commercially or by other government organizations. As mentioned previously, approximately 85% of the information collected and used by government at all levels is geographic information. The efficiency of government is dependent on the manner and extent to which agencies and organizations share geographic information. The following observations were made in the 2001 Strategic Plan for Geographic Information Management and are equally true today:

- The use of GIS has greatly improved the pattern of geographic information sharing.
- The potential to improve geographic information sharing between agencies and organizations, and across policy areas, is substantial, as indicated by the number of geographic information activities in Table 2-1 that cut across two or more policy areas.
- Current geographic information flow does not adequately accommodate all the needs of the user community.

The most significant limitation for enterprise geospatial information management in Oregon is the confidentiality exemptions that have been placed on public records law during the last three legislative sessions. These exemptions, taken together, have significantly limited the willingness of local governments to readily share geographic information with state agencies and other organizations. Geographic information sharing across the enterprise of government agencies, the academic community, and the private sector in Oregon should become an established part of the normal functioning of the agencies and should be performed with appropriate procedures and technology to ensure efficient, continuous flow. A collaborative effort to manage geographic information, as it currently exists and as it emerges throughout the community, coordinated through the Oregon Geographic Information Council will address the data sharing limitation over time. In addition, OGIC has formally requested assistance in addressing this limitation from the Oregon Attorney General.

Section 3: Strategic Foundation

Mission and Vision

The mission of the Oregon Geographic Information Council is to support the business of Oregon government by enabling efficient and effective use and sharing of geospatial information.

Oregon's Vision for Geographic Information Management

The Oregon Geographic Information Council (OGIC) envisions an environment for developing and managing Oregon's geographic information assets that:

- Encourages and supports the contributions of everyone in the Geographic Information Community;
- Leverages the human, technical, and information resources of the Geographic Information Community to accomplish measurable statewide and local objectives and to solve real problems;
- Provides an organized framework to enable data integration and sharing of both spatial and non-spatial applications and information;
- Raises the awareness and knowledge of all citizens and businesses in the state about the uses and benefits of all geospatial technologies;
- Serves as facilitator between geospatial technology and the broader realm of information technology;
- Prevents or discourages misuse/abuse of public data;
- Spreads the benefits of geographic information and geospatial technology broadly and equitably to improve the quality of life and the environment for Oregon's citizens.

A Strategic Planning Foundation

The vision is translated into strategic goals and programmatic objectives by the Strategic Plan for Geographic Information Management. The Plan relies on a basic foundation composed of five themes, each incorporating several of the goals and objectives. In the next section of the Plan, the objectives for each goal are defined and specific actions are recommended for various stakeholders.

Management and Coordination

Goal M1: Develop and Implement a Revised Funding Model for Geospatial Coordination

Goal M2: Increase Inclusiveness of the Geospatial Governance Model

Driven by the Governor's Executive Order No. EO-00-02, Oregon's geographic information coordination model emphasizes the leadership and funding mechanisms of state agencies. The State GIS Coordinator, the Geospatial Enterprise Office and its technical resources, and \$500,000 of framework data development funds are resourced by a voluntary budget assessment against state agencies. This assessment is based on the number of employees (FTE) and the importance of geospatial information to satisfying state agency missions and goals, but it is insufficient to complete the timely initial development of Oregon's 14 framework datasets (and cannot be expected to also cover their maintenance/stewardship as well).

The governance and funding models for Oregon geospatial information management must be revised to increase the participation of non-state government and operational entities (e.g., local governments, private sector entities, tribal agents, and utilities). We propose to develop metrics that will demonstrate the effectiveness of current funding methods and allow us to see an optimal path forward for the development of the framework data sets. Simultaneously, we propose to restructure the coordination governance environment so that geospatial information investments reflect priorities and resource commitments from the broadest enterprise of geospatial information contributors and consumers.

As noted earlier in this Plan, sharing geospatial information across jurisdictional boundaries and between organizations at all levels of government, the private sector, etc., is essential to problem-solving and improved decision-making. This fact demands more equitable representation in the governance of geospatial coordination for the enterprise.

Objective M1.1: Document existing methods for resourcing geospatial coordination activities and develop metrics to demonstrate successful coordination efforts.

Objective M1.2: Establish shared vision of optimal funding model for geospatial coordination, including a comprehensive, enterprise value/benefit tracking mechanism.

Objective M1.3: Demonstrate value of enhanced geospatial coordination activities in terms of timeliness, accuracy, completeness, and stewardship.

Objective M1.4: Engage all jurisdictional levels in Oregon.

Objective M2.1: Restructure the Oregon Geographic Information Council to deliver equitable, cross-jurisdictional representation.

Objective M2.2: Explicit outreach to all government decision-making executives in Oregon (state, regional/COGs, tribal, county, city, multi-state).

Objective M2.3: Establish the value of participation in geospatial governance activities (stress geospatial information as an asset).

Objective M2.4: Outreach to enabling authorities (Executive Order, Legislative mandate/statute).

Information Access

Goal I1: Enable and Expand Data Sharing and Accessibility

Goal I2: Improve Communications within the Geospatial Information Community

Beyond the challenges concerning spatial data governance and resourcing, Oregon geospatial data resource users cannot easily access the authoritative spatial data needed to support their business requirements in consistent and predictable ways. Spatial data are often in multiple locations where they are most easily accessed/managed/maintained by silo-ed data developers and managers. This distributed data environment does not allow for optimal application design and deployment at the enterprise scale. Progress has been made in the last few years toward resolving this issue with the development and implementation of Oregon Explorer, the navigatOR web portal. Additional customization is needed to improve the functionality of the site and to include access to a more robust set of data, metadata, and data management tools.

Simultaneously, the ability to gain access to authoritative, complete, consistent, accurate, and current spatial data is constrained by multi-level legal interpretations concerning the confidentiality and liability aspects of data provision and use. The GIS community proposes that we resolve these issues by way of a single legal liability and confidentiality interpretation, and a resourced, consistent communications effort.

- Objective 11.1:* Fully deploy enterprise geodatabase functionality (store once for access by all)
- Objective 11.2:* Continue to deploy web-based geospatial services
- Objective 11.3:* Resolve confidentiality / liability issues at enterprise level
- Objective 12.1:* Implement enterprise geospatial communications plan. Continue geospatial standards forums.
- Objective 12.2:* Develop explicit enterprise communications responsibilities. Need regular stream of information on agency geospatial activities for newsletters.
- Objective 12.3:* Expand GPL to include all governance and funding participants
- Objective 12.4:* Outreach to Legislature/County Commissions/City Councils

Data Management

Goal D1: Formalize and Improve Data Stewardship Model

Goal D2: Accelerate Development of the Oregon Geospatial Data Framework

Data stewardship is an essential element of high quality data management. The concept of stewardship is about service by one or a few organizations to the enterprise in professional management of a data set for the good of the whole. With most of the Framework data themes, no single organization or agency has a mandate or dedicated funding to provide stewardship. But if stewardship is not performed, the investment in a data set will be wasted as the data quickly becomes outdated and useless. If stewardship can be assigned and performed early in the life cycle of a data theme, a wide variety of users will be able to develop applications based on assured access to high quality data to support their individual business processes. This will help prevent duplicated data development in most cases.

Data development remains the largest and most costly effort required to fully implement the navigatOR program. As indicated in Table 2-5 above, nearly all of the statewide Framework themes beyond those recognized at the national level are incomplete. An organized, fully funded enterprise effort working through the Oregon Framework Implementation Team and the Oregon Geographic Information Council is necessary to complete initial statewide Framework development.

- Objective D1.1:* Establish value proposition for geospatial data stewardship
- Objective D1.2:* Develop methodology to recognize authoritative data sets for Framework layers.
- Objective D1.3:* Establish prototypical stewardship agreement
- Objective D1.4:* Ensure that geospatial data are maintained by stewards.
- Objective D2.1:* Prioritize data sets, including but not limited to, orthoimagery, elevation, geographic names, hydrography, boundaries, transportation, structures, and land cover needed to complete, update, or expand initial statewide development of geospatial data Framework
- Objective D2.2:* Initiate and manage data development projects with appropriate providers
- Objective D2.3:* Initiate and manage QA and acceptance procedures for data sets, including metadata

Services and Support

Goal S1: Expand and Improve Customer Service, Support and Training

In the past decade, the need for formal GIS training has become much more pronounced as standardized geospatial data has become readily available for use with GIS. In addition, many GIS users and others around the state have expressed a need for assistance in understanding where to find specific data sets and how to use the data once they find it. The Geospatial Enterprise Office has limited capacity to provide the expanded customer service, support and training that the user community requires. There are many opportunities to work with academic institutions and others to provide GIS education and training. Those opportunities must be coordinated and organized to better meet the needs of the user community.

With the expanded use of GIS and geographic information at all levels, there is a growing need for services and service providers. Those services include development of geographic information and development of GIS applications, including web-based

applications. While the private sector can provide much of the needed service through direct contracts and through public/private partnerships, there is a service provision niche that can be filled by academic institutions, non-profit organizations, and federal, state and local agencies. GEO can provide support to the GIS community in terms of helping to match up service providers with users that need services, as well as providing procurement guidance when appropriate.

Objective SI.1: A compendium of available public services and resources for geographic information development and GIS application development will be compiled and maintained.

Objective SI.2: An on-line, interactive database of GIS projects and applications of geographic information will be developed and kept up-to-date.

Objective SI.3: An approved list of private sector vendors of geographic information development and GIS application development will be compiled and maintained, and a master procurement vehicle for GIS services will be developed for agencies and organizations to use.

Technology Transfer

Goal T1: Promote Broader Accessibility and Use of Geographic Information Systems Technology

Outreach to mid-level managers and others unfamiliar with or uninvolved in GIS and geographic information use will pay dividends by promoting more data development and data sharing, resulting in less duplication of effort and more efficient use of resources. In addition, making policy makers aware of the existing and potential link between location and high priority programs and objectives at all levels will promote broader use and achieve greater benefit from geographic information technologies. The extension of the regional GIS service center concept, employed by the Portland Metropolitan Planning Organization and the Lane Council of Governments, to other parts of the state, particularly the rural areas, will provide the GIS staff, information and technology necessary to support the business of government in those areas.

Geographic information is a cornerstone of the State's Enterprise Information Resource Management Strategy. To solidify that role, GIS must become more closely integrated with the information technology infrastructure. As this happens, geographic information will come to play a much more critical role in every aspect of the enterprise of government in Oregon, thus enabling the performance of processes and the resolution of problems that cut across departmental, jurisdictional, and governmental boundaries. In particular, it is important to extend the use and benefit of geographic information and GIS technology beyond its historical boundaries in Oregon, to incorporate the broad range of potential socio-economic uses.

Objective T1.1: Coordination with academic institutions and the private sector will be pursued to meet the education and training needs of the GIS user community.

Objective T1.2: Host a national GIS conference within the next 3 to 5 years, enabling more participation by state and local officials.

Objective T1.3: Continue to develop and host web services and web viewers for local governments.

Section 4: GIS Work Program

Objectives, Responsibilities, and Timing

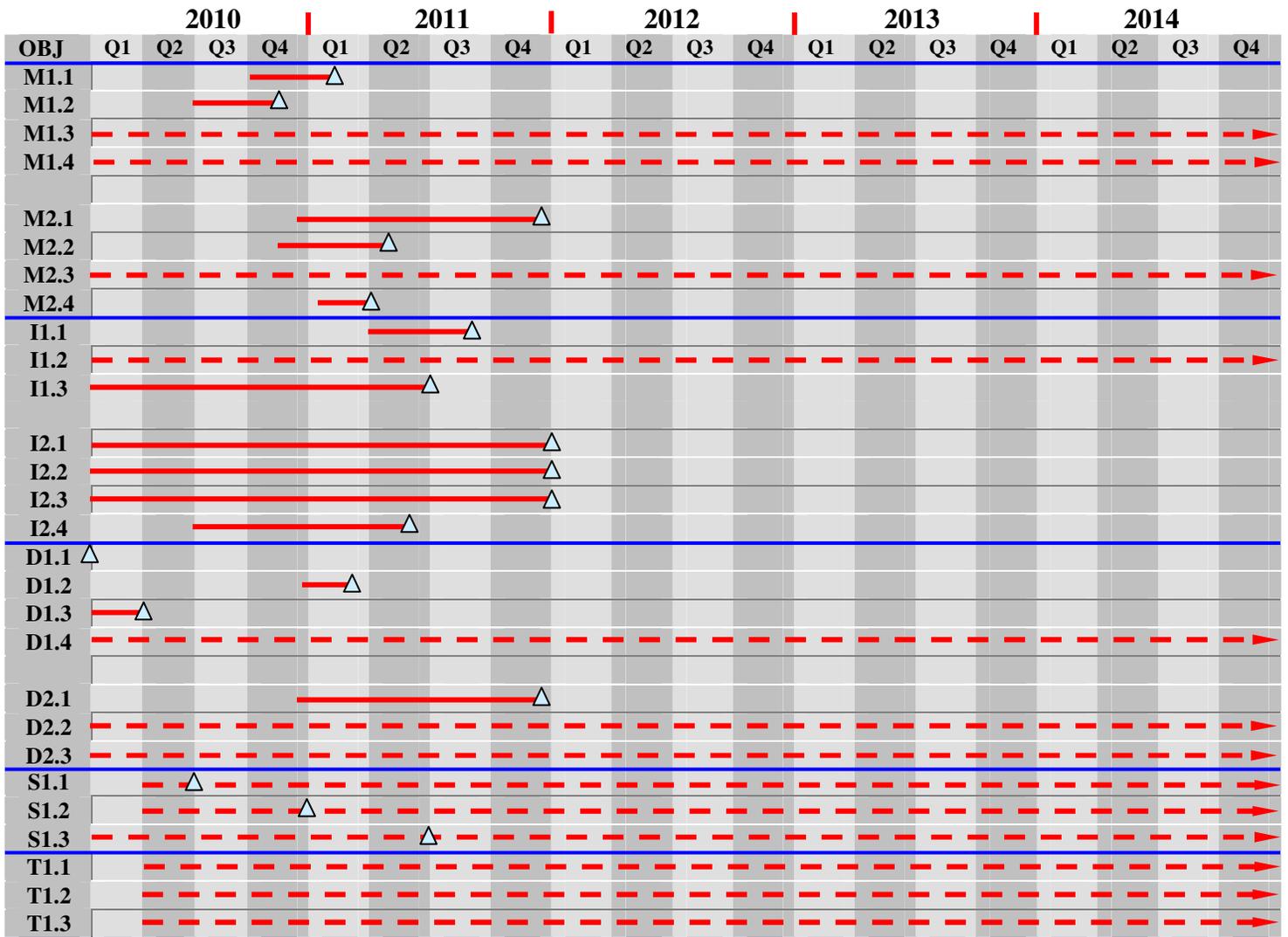
Table 4-1 assigns responsibility for each objective to one or more organizations and Table 4-2 lays out a proposed timeline for accomplishing each objective. The complete execution of this Strategic Plan and the business plans that will accompany it and enable full implementation of the navigatOR program is estimated to require a short term investment of approximately \$120 million over six years by Oregon geospatial stakeholders. The expected benefit from that investment is approximately \$1.4 billion over ten years.

**TABLE 4-1
Responsibilities Matrix**

Objective	Oregon Geographic Information Council (OGIC)	OGIC Policy Advisory Committee (PAC)	OGIC Technical Advisory Committee (GPL)	Geospatial Enterprise Office (GEO)	Oregon URISA	Regional Geospatial Information Council (RGIC)	Framework Implementation Team (FIT)	Enterprise Information Strategy/Policy Div (EISPD)
M1.1	•	•	•	•	•		+	+
M1.2	•			+	•			
M1.3	•	+	+	•	•		•	
M1.4	•	+	+	•	•	•	•	+
M2.1	•	+	+	•	•		+	+
M2.2	•			•				•
M2.3	•	•		•	•			•
M2.4	•			•				
I1.1	+		+	•			+	+
I1.2	+		+	•				+
I1.3	•	•		•				•
I2.1	•	+		•	•	•		+
I2.2	•	•		•	+			+
I2.3	•	+	•	+	•	•		•
I2.4	•	+		•	•			•
D1.1	•	+		•				•
D1.2	+	•		•			+	•
D1.3	+		•	•			•	
D1.4			•	•			•	
D2.1	•	+	+	•			•	
D2.2				•			+	
D2.3				•			+	
S1.1	+	+	•	•	•	•	•	+
S1.2			•	•	•		•	+
S1.3	+			•	•			+
T1.1	•			•				+
T1.2	+			•	•			+
T1.3	+			•	+			•

- Primary responsibility
- + Secondary responsibility

TABLE 4-2
Timeline by Quarters



△ Product or Completed Objective
 ---> Ongoing Objective

APPENDIX A History and Process

History of Geographic Data Use and Coordination in Oregon

An ever-increasing paper load has always besieged government. In the area of mapping, the paper load has been especially cumbersome. Large or odd sizes and the time-consuming processes required making even minor changes has made cartography one of the true arts. More importantly, it has been difficult to compare or combine information between maps. Beginning in 1969, the Department of Forestry captured map information on keypunch cards and processed it on a mainframe computer, producing a data tape that was used to drive a plotter. Although the system was difficult to update and maintain, it was the first effort at moving Oregon maps to a digital medium.

In the late 1970s, Oregon counties began to embrace digital cartography for tax lot and parcel mapping, either with their own systems, or by contracting with the State Department of Revenue. This began the development of one of the more critical GIS data layers needed today, along with major advances in dealing with the paper map problem.

Beginning in the early 1980s, state and local agencies made major investments in computerized systems to support their digital mapping tasks. At the same time, a few local and state agencies began testing and using a new type of computer mapping system directly linked with a database manager. This type of system could use data associated with a map, and addressed the issue of comparing and analyzing information between maps.

GIS technology has matured in Oregon. It has moved and expanded from the hands of highly trained specialists dealing with mainframe technology to user-friendly tools on the desktop. The people using GIS now need not be as controlled by technology. They can concentrate less on the technology and process, and more on the outcome, solutions to problems. This has resulted in GIS being better integrated within programs that need to analyze and provide geographic information. GIS has become an integral part of the decision making and public service process. For example, it is becoming commonplace to find GIS being used at the public desk at local planning agencies as a tool for conducting business. The Oregon Water Resources Department relies on GIS to provide water-related information at their customer service desk. The Oregon Department of Environmental Quality (DEQ) provides a Web based customer service desk, through the use of their enterprise Facility Profiler. The DEQ routinely makes pollution load allocation models based on analysis of the combination of geography, monitoring data, and statistics. And some agencies are making resource allocation decisions based on analysis of the combination of geography, statistics, and census data.

History of SMAC and OGIC

The Oregon State Map Advisory Council (SMAC) was originally established by Executive Order in 1912 with a goal of completing the mapping of Oregon. From the 1960s through the 1980s, the goal was to work with the U.S. Geological Survey to complete the 1:24,000 scale quadrangle map series. In 1983, the SMAC was re-established by Executive Order No. EO-83-15 to coordinate mapping, land records management and geographic information activities. In 1989, the SMAC was asked to provide direction to the State Service Center for Geographic Information Systems created by Order EO-89-16. Appointed members of the SMAC were primarily from the natural resources agencies. In September of 1994, the Council was reorganized under Executive Order EO-94-16 and was renamed the Oregon Geographic Information Council (OGIC). OGIC had a broader scope, including public safety and human resource agencies. In February of 2000, Executive Order No. EO-00-02 again revised the scope of OGIC membership to include local governments and Federal agencies. Under this Executive Order, OGIC members are to be agency Directors, Deputy Directors, or policy level alternates. Furthermore, this new Executive Order establishes a relationship between the policies and guidelines of OGIC and the State's Enterprise Information Technology Strategy. The content of the latest Governor's Executive Order is included as an Appendix B.

Strategic Plan Refresh Process

The 2001 Strategic Plan for GIS in Oregon was created prior to the Fifty States Initiative. While that plan was for development of Oregon's portion of the NSDI, there are aspects of the Fifty States Initiative that will be improved in Oregon with development of this refreshed plan. A detailed business plan has been developed for the navigatOR program that is based, in part, on an understanding of the Fifty States Initiative, but no documentation of the strategy behind that business plan had been produced prior to this refresh.

Following award of the 2009 CAP Category 3 grant to OGIC, the following actions were taken to initiate the strategic planning process, based on our grant proposal:

- A series of facilitated group discussions was planned and conducted titled “Let’s Talk” focusing on open communication and frank dialog to elicit information about navigatOR, how it’s working, what needs to change and where it needs to go. A variety of methods was used to announce the meeting to the Oregon GIS Community including email lists, direct email, the web, phone calls, announcements at meetings and word of mouth. Specific groups contacted included: Oregon URISA, OGIC, FIT, GPL, Oregon Assessors, Oregon Association of Economic Development Districts, Oregon Association of Community Corrections Directors, and the Association of Oregon Counties. Meeting locations were dispersed around the State and included GIS in Action (ORURISA, WA URISA), Portland Metro area, Pendleton, Ontario, Lakeview, Bend, Portland, Salem and Roseburg. Meetings occurred between April 21st and June 19th.
- Meeting results were summarized and distributed back to those individuals that attended each meeting to allow for edits or additional comments to be captured. These comments were added to the results and used as direct input to the Plan. These results are included as Appendix C.
- Oregon project staff met with Gail Ewart, GIO, State of Idaho and Danielle Ayan, Georgia GIS Clearinghouse Manager, State of Georgia to discuss their respective 50 States GIS Strategic Planning efforts.
- A Strategic Plan Steering Committee composed of representatives from State, Regional and Local Government and the University System was convened. This group discussed information gathered to date and provided strategic guidance. Metro’s Data Resource Center (the GIS business group in Oregon’s largest regional government) was simultaneously refreshing their strategic plan. Coordination with Metro was initiated to align planning activities.
- A nationally attended webex/teleconference focused on benefit accrual tracking was held and volunteers were solicited for additional working teleconferences. One additional webex/teleconference with a smaller workgroup was conducted.
- The Strategic Plan draft was widely reviewed by the GIS community and revisions were made prior to OGIC endorsement.



LET'S TALK!

CALL FOR PARTICIPATION:
VISIONING OREGON'S STATE SPATIAL DATA INFRASTRUCTURE

More than 80 percent of the information collected and managed by government is geographic. That is, it's information about a location, or an event at a specific location. It's vital to know where we are and what's around us. Public agencies and other organizations in Oregon depend on maps and geographic information to support day-to-day operations. This information also supports good planning and decision-making.

There is a critical need to coordinate, develop and maintain geographic information and the computer systems that manage it. Oregon needs to achieve widespread consensus on a vision for sharing spatial data, originally created for specific business purposes, to solve a wide variety of problems.

Join us for a facilitated interactive learning experience in which the participants will be encouraged to identify the barriers to data sharing, political and technical, which continue to exist. Participants will also be asked to identify possible solutions to the barriers, including collaborative actions that might guide subsequent activities.

REGIONAL MEETINGS:

- May 18th Pendleton Umatilla County Justice Center
- May 20th Ontario Ontario City Hall
- May 21st Lakeview Emergency Services Building
- June 11th Bend Deschutes Services Center, 1300 NW Wall St.
10:00 am - Noon, Barnes Room
- June 12th Salem Salem Public Library, 585 Liberty St. SE
2:00 pm - 4:00 pm, Anderson A Room
- June 16th Portland ODOT Flanders Building, 123 NW Flanders
2:00 pm - 4:00 pm, Main Floor Conference Room
- June 19th Roseburg Douglas County Library, 1409 NE Diamond Lake Blvd.
1:00 pm - 3:00 pm, Ford Community Room

More information on GIS activities and coordination in Oregon is available online: <http://gis.oregon.gov>
Questions? Contact: Oy Smith (503) 378-6066, oy.smith@state.or.us
Mill Hill (503) 378-3157, millon.e.hill@state.or.us
20090527

Appendix B

Governor's Executive Order 00-02

EXECUTIVE ORDER NO. EO – 00 - 02

OREGON GEOGRAPHIC INFORMATION COUNCIL

Geographic information about the character and location of the state's human, economic, natural, and infrastructure resources, and the activities that affect and are affected by those resources, is essential to all levels of government in Oregon. Mapping land records, and geographic information systems (GIS) are the primary tools for analyzing this information.

For these reasons, Executive Order No. EO 83 - 15 established the State Map Advisory Council. The Council was given additional responsibilities by Executive Order NoEO 87- 11. Executive Order No. EO 89 - 16 charged the State Map Advisory Council with establishing a statewide GIS plan, establishing standards and procedures for digital map data, and providing direction to the State Service Center for Geographic Information Systems created by the Order. Executive Order No. EO 94 - 16 further revised the State Map Advisory Council, renamed the council the Oregon Geographic Information Council, and broadened the representation to include the human resource and public safety agencies.

State agencies require access to complete, current and accurate geographic information as human and natural resource policies become more complex. Furthermore, the completeness and accuracy of geographic information relies heavily on shared information between state, federal, and local governments. Consequently, further revision of the Oregon Geographic Information Council's appointed representation is required.

Oregon requires leadership to ensure it maintains a consistent vision for geographic information activities within the state and between governments. Such leadership requires a forum to encourage participation and to facilitate sharing of information about all aspects of geographic information, including GIS, mapping, global positioning systems, satellite imagery, and desktop tools. Finally, the need to assure the wisest use of limited resources requires a central point for coordination and partnerships.

THEREFORE, IT IS HEREBY ORDERED AND DIRECTED:

1. Executive Order No. EO 96-40 is hereby rescinded.

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2. This Executive Order continues the Oregon Geographic Information Council (OGIC). The OGIC shall:
 - a. Provide leadership within state government regarding the accumulation, dissemination, analysis, and management of geographic information, including, but not limited to:
 - i. Advocacy before the Oregon Legislative Assembly, United States Congress, county commissions, city councils, and the private sector;
 - ii. Exploration of “best practices” relating to geographic information, while determining if such practices are applicable to Oregon;
 - iii. Creation and promotion of a statewide mission for geographic information; and
 - iv. Direction of that statewide mission through work with the Legislative Assembly, the Federal Geographic Data Exchange Group, and units of local government.
 - b. Provide a statewide forum for all geographic information issues. In providing such a forum, the OGIC shall:
 - i. Encourage the involvement of all parties potentially affected by geographic information issues;
 - ii. Function as the primary point of contact on discussions regarding geographic information issues affecting state agencies; and
 - iii. Facilitate the free flow of information between interested parties.
 - c. Fulfill a policy, planning, and assessment role regarding geographic information issues, including:
 - i. Conduct an ongoing review of statewide geographic information

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systems, as well as oversight of GIS, in coordination and consultation with the Information Resources Management Division of the Department of Administrative Services (DAS);

- ii. Prioritization of geographic information initiatives;
 - iii. Development of geographic information guidelines and standards to be adopted by the Information Resource Management Council; and
 - iv. Provide advice to DAS on budget decisions regarding implementation of GIS functions.
- d. Promote coordination and partnerships among federal, state, and local government entities regarding geographic information issues.
3. The OGIC shall consist of the Director, or policy-level alternate, of the following governmental bodies:
- a. The Department of Agriculture, the Department of Environmental Quality, The Department of Fish and Wildlife, the Department of Forestry, Parks and Recreation Department, the Department of Human Resources, the Department of Transportation, the Department of Revenue, the Oregon Economic and Community Development Department; the Water Resources Department; the Department of Geology and Mineral Industries, and the Division of State Lands;
 - b. The Secretary of State's Office; and
 - c. The Governor's Office
- Additionally, the OGIC shall consist of:
- d. The statewide coordinator for GIS;

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- e. Two representatives of local governments; and
- f. A representative of one federal agency.

Additionally, the OGIC shall encourage other interested state and federal agencies to participate.

- 4. The Director or Deputy Director of the Department of Administrative Services (DAS) shall serve as the chair of the Council. Additionally,
 - a. The OGIC may establish standing committees and ad hoc work groups, as needed, to achieve its purpose, and to ensure the continual involvement of local and federal agencies;
 - b. The chair shall call the OGIC to meeting at least once per calendar quarter;
 - c. The DAS Information Resources Management Division shall provide staff assistance to the OGIC; and
 - d. No member of the OGIC shall receive compensation for their services.
- 5. This Executive Order provides for the coordination of statewide GIS projects; provides and administers a library of spatial data; and manages access to that data. Functions shall include:
 - a. Develop and document statewide spatial library data, as well as provide federal, state, county and local governments, and private sector representatives access to that information. Emphasis will be placed on strategies of on-site storage and on linked web site access to the data;
 - b. Provide customer support; and DAS-provided/brokered consultation, project support, and programming services to other state agencies;
 - c. Coordinate with federal agencies, state agencies and the private sector on the maintenance, gathering, distribution, and licensing, where applicable, of geographic information; and

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- d. Provide staff support to the chair of the Council.
6. State agencies shall coordinate GIS mapping, and other geographic information activities with the OGIC, the Oregon Spatial library, and other local and federal agencies. Where appropriate, state agencies shall:
- a. Create and maintain geographic data themes, and provide updates or linked web site access of that data to the Oregon Spatial Library on a schedule to be determined by the Information Resources Management Division;
 - b. Share information through the OGIC, and the GIS Coordinator, regarding projects involving geographic information and related systems technology
 - c. Coordinate with the OGIC, and the GIS Coordinator, before making decisions about planning and development of projects involving the acquisition of geographic data, hardware, or software;
 - d. Participate in the review and updating of an Oregon Geographic Information Council Plan, and adhere to the policies and standards established in the Plan; and.
7. The Information Resources Management Division of DAS shall work with the OGIC to develop policies and guidelines to guide agency acquisition of geographic information, based upon, yet not limited to, the following considerations:
- a. The-cost effectiveness of computer hardware and software;
 - b. Compatibility with the Enterprise Information Technology Strategy;
 - c. Compliance with statewide standards, developed by OGIC, and endorsed by the Information Resources Management Council; and

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- d. Whether or not agency acquisition or efforts duplicate the efforts of other agencies.

Done at Salem, Oregon this 1st day of February, 2000.

/S/
John A. Kitzhaber, M.D.
GOVERNOR

ATTEST:

/S/
Bill Bradbury
SECRETARY OF STATE

Appendix C

Let's Talk Meeting Results 2009

April 22nd GIS in Action

PROBLEMS:

- Lack of common operating picture
- No regular interactive and multidirectional data exchange
- No easy and simple access to the data by multiple methods (ftp site)
- Need exchange of data, even if not perfect
- Funding insufficient to maintain data
- Data "vampires"
- No formal structure for maintaining data
- Issues not on Executives agenda
- Metadata misuse and abuse
- Even internal data sharing sometimes problematic
- Inappropriate use of data because metadata not understood

CONCERNS:

- Proprietary formats/proprietary data, even if public funds
- Release, use and liability associated with data either "in progress" or final
- Need to build trust between entities that data will not be misused
- How to control unauthorized or unintended redistribution of shared data
- Public / private / sensitive (concerns)
- Difficulty or expense in complying with standards
- Appropriate use in public GIS tools
- Data exchange and proprietary formats
- Public agencies using private companies to create non-public data
- Liability
- Trust that data will be used appropriately
- Data currentness
- Standards take a long time to develop or revise
- Expense/difficulty in complying with standards and data sharing

DATA:

- Project data not always shareable
- 88% of users and projects need data that is out of their control
- Distinction between project and final data
- Keeping metadata with data
- Keeping data up-to-date
- Mechanism to communicate concerns about data
- Data WILL be misused!

SOLUTIONS:

- Facilitate interaction between entities to encourage sharing
- Legally defined classes of data to facilitate sharing and limit liability (derived data example)
- Determine costs/conditions for putting data in public domain
- Data policy/license agreement - publicize it so that others understand/are aware
- Standardized set of policies and procedures for data sharing rather than developing them ad hoc
- Agree on public / private / sensitive classifications as a starting point (beta) (beyond GIS community - involve other users)
- Money = stick? carrot? (funding incentives)
- Establish data standards and minimum attributes based on user needs

- Establish standard sets of data
- Define needed data
- Define basic attributes
- Washington Sunshine Law, Oregon Open Records Law
- Identify vested interests in sharing data. Use real world examples
- Wild and irresponsible data sharing!
- More interactive data exchange
- Publish data sharing policies
- Use license agreement to outline procedures
- Build data for high level business processes

May 18th Pendleton

PROBLEMS:

- Lack of connection / coordination between the Eastern Oregon and Willamette Valley
- NE Oregon User Group abandoned when EOU programs that supported it was cut
- Local GIS people don't know what State Agency GIS people have going on and visa versa
- There are many webinars that might be useful but it's difficult to find out about them – perhaps a clearinghouse would help?

CONCERNS:

- There is a concern about the misuse of address data
- If State misuses address data the County catches the heat
- A one year update cycle for parcel data is way too long. Changes occur on a daily basis
- Expense of travel will prevent many or all from attending any sort of regular statewide meeting

DATA:

- Counties sell parcels
- Most people will trade data
- Counties say that, aside from parcel data, they don't produce much new data
- GEO's spatial data library (SDL) is nice but some of the data is old
- Perhaps SDL could also contain pointers to sources of better data when it exists. Example: point to cadastral data at County which could be sold
- The Tribes find a lot of GIS data on the Internet and then improve it for their own use
- The Tribes have road data that they would like to give to a willing Steward but they don't know who that is

SOLUTIONS:

- Need better networking (people not computers)
- We should create a “common vision about what spatial data should be used for”
- ORMAP is a good example of coordination that works for Eastern Oregon and also at the County level
- Use the GEO Calendar as a clearinghouse for webinars
- How about a quarterly conference call or webinar for “anyone around the state that's interested in GIS”
- How about an “Oregon Track” at the NW ESRI User Conference with presentations by State Agencies, Counties, Tribes, etc.
- RSS feed for calendar updates

May 20th Ontario

PROBLEMS:

- Training for lidar use. How do we use it once we get it? Data comes without directions for using, converting, projecting
- Generally how to use any particular piece of data
- Can't get hold of data steward to find out how to use data
- Having data in non-standard formats causes duplicate efforts to convert and sometimes there are no resources to perform necessary conversion
- Structure of government (silos) is fundamental challenge
- Feeling of suspicion that some will not contribute but will want it or benefit once it's there

- Need technical training and support
- Need to get past data sharing issues
- Many can't see the value proposition in cooperatively building data

CONCERNS:

- Multiple data sharing agreements for the same data
- Lots of data sharing agreements
- Lack of standards coordination
- How to deal with privacy/confidentiality issues
- Many datasets have privacy / confidentiality issues, not just tax lots
- Water rights is another confidentiality issue
- What about public regulated utilities?

DATA:

- Issues with privacy and confidentiality exist with multiple datasets
- Private funding/resources involved in development of some data that is useful and needed. They want a say in use or have their own standards
- Different classes: 1) all public, in public domain 2) public but confidential 3) pub/private mix
- What is scope of spatial data library (SDL) - limited to framework or is it broader?
- BLM: 80 core themes, 200+ other themes

SOLUTIONS:

- Make data easy to access and use on a website
- Package training with data
- Boilerplate for people to use in contracts to assure consistent data (public domain, developed compliant to standards, etc)
- Build formal cross connection between government silos
- Standards, minimum attributes or boilerplate for data sharing and other agreements - cite successful examples and make them available on the web
- Potential for public/private partnerships to build out some data - energy for example
- What restrictions might come with such partnerships?
- Provide products that most can use, not just data that specialist only can access
- Is there funding from or thru GEO/ State to develop the data
- Provide funding for standardized, public datasets
- SDL users could fund the it
- Locals could write a predetermined SDL support fee / percentage into grants to OWEB, NRCS, etc...
- Construct benefit formula to set this rate
- Look to software vendors for support (funding, software, services, etc)
- Shared symbology - symbology standards - perhaps expand on state document
- Accurate and useful metadata needs to accompany data
- Don't accept data in DSL without metadata
- Consistent cartographic symbols / templates
- Clearinghouse of resources is just as important as data. example: what are resources that a city can use before letting a contract for spatial data
- Contract / procurement guidelines
- Homeland Security decision tree example to guide data sharing decisions
- Data collection guidelines - perhaps a decision tree?
- Standardized decision process for GIS projects
- Guidelines for defining GIS projects, perhaps a template?
- GIS training for non-GIS people
- Procurement guidance similar to Revenue's computer assisted map appraisal (CAMA)
- Something like an IRR process for GIS projects
- Build and provide useful derivative products

June 11th Bend

PROBLEMS:

- We are in a budget crunch and sell county data now. how will this work for us if we share instead of sell? (Jeff. Co.)
- Need access to archival / historical data
- Standards can be confusing (Crook Co)
- It would be nice to have a voice in Standards development and revision
- Some Co. tax systems make it very difficult to flag some names as suppressed
- Ownership info sharing should be backed off from as a requirement for tax lots
- Why does the State need the ownership info? Having this documented would be helpful
- If we are not proactive will have more problems later
- ORMAP process is not funding goals sufficiently to assure success
- Which person in Co might be the POC? establish appropriate POCs for particular issues

CONCERNS:

- Deja-vu w/3 years ago in Crook Co. Scott, Deschutes Co. Assessor asks what is different this time
- Lack of consistency between (for example) BLM property records and Co. records
- There is a trust issue around the def of "public record" perhaps a broader discussion of public record before we talk of sharing data. HB 2339 now includes situs address
- How to deal with timeliness and data
- See data misuse and misinterpretation
- There is still a problem with metadata - it's missing when I get it many times
- Scott asks how we actually make this happen or get traction
- Counties charge different rates for data
- Federal agency coordination
- Solutions must be statewide without gaps (particularly rural/urban)
- Funding – taking \$\$ from locals when data is shared with the state
- Standards:
 - File structure
 - Cartographic
 - Field names
- Existing standards are confusing, difficult to use and contradictory
- Exemptions to public record law creating data sharing issues
- Timeliness of data compiled from multiple data sources
- Misuse of data built for specific purposes
- Non-GIS users can't understand data and appropriate uses
- Archiving historical data
- ORMAP funding insufficient
- Need to establish the right contact for each issue

DATA:

- There are data structure issues and it would be nice to look at a variety of standards in place
- It would be nice to know where to look for standards and standard data
- Quarter/quarter section data is a good example where people have trouble determining the authoritative copy

SOLUTIONS:

- Work on Standards revision process to make it more inclusive. weather plays a factor and perhaps webinar / Govspace is a solution
- Bob H. nods head when Cy suggests that it's time to have another data sharing task force meeting
- Survey counties to determine how much they actually make selling data
- There is still concern from county if state is only using the tax lot data for notification. There can be more than one owner
- Perhaps make only very tabularly simple data available that then tables can be linked to (Crook Co.)
- Bob says he really wants to see the Partnership brought back to life

- Should follow thru on plan in document - "governing body"
- This body could answer Scotts concern about follow thru and this could also be the sounding board for Legislature
- Bob states that partnership doc has communication plan
- Make sure focus is statewide and not valley or population focused
- Need to have a legislative level discussion about the public record issue
- MT cadastral data as example of simplified/statewide data
- GEO could provide "expert service" for non-GIS people
- Contract w/counties for notification
- Centralized web service for notification. DAS or DOR hosts and utilize service
- Find more funds for tax lot development and run them thru ORMAP - it's an already existing program that focuses on this topic.
- Communication hub on the web
- Govspace
- Web based "Ticket" concept instead of forum so that ideas can be tracked
- Harvest info from pw protected Govspace to an open webspace that's avail to all...
- Mapping services / analysis for the public
- Drop owner info from data sharing until public records discussion is resolved
- Contract with Counties to develop notification lists as a centralized webservice
- Survey to see \$\$ generated by sales for cost recovery
- Website for recommended standards and guidelines – what is state using?
- Webinar for modifying existing standards
- Need broader data sharing!
- Involve AOC in public records discussion
- Data model that includes simple data structure and allows additional tables to be added – look at MT model

June 12th Salem

PROBLEMS:

- How do we address intergovernmental data sharing?
- It all comes down to funding and communication
- How do we identify the right person for the task in any particular organization?
- Statewide taxlot data not available
- Data storage and accessibility
- Inventory of available data
- Need mechanism to improve datasets from various sources
- No steward (or multiple stewards) for some framework data
- Coordination of GIS activities still lacking – what to do?
- Many agencies lack GIS resources – what to do?
- Funding
- Communication
- Agencies don't always recognize the value or existence of GIS and spatial data
- Connecting business problems with technical solutions
- Technical issues:
 - Projections / coordinate systems / datums
 - Interoperability
 - Engineering data and GIS – the accuracy issue

CONCERNS:

- Finding available data is difficult
- Liability if data is misused
- Privacy is an issue for taxlot providers – owner name and address
- Privacy and liability specifically related to update cycles

- Security goes along with privacy and liability. Military has concerns about strategic advantage. This goes for archeology as well as military...
- Security – a combination of available data from different sources can provide unintended strategic advantage.
- Locals with data may think this is a "gold mine". Determine what this revenue stream really is
- How do we incorporate end user enhancements efficiently back into the framework data from whence it originated?
- There are datasets that need stewards but no one steps up. How do we deal with that?
- Stewards must see sufficient benefit to themselves / their organization
- Coordination with agencies that may be "going off on their own" and thus duplicating efforts
- "We have no GIS and are looking for someone to help us. We probably don't even need to create GIS"
- Bureaucracy...

DATA:

- USDA Common Land Unit data: lists producers, might be alternative to taxlots? FSA is custodian
- I'd like to know that I am streaming the best available and most authoritative data
- Need to determine the best update cycle and make it known to users. This applies to both providers and users and is different for each dataset
- Most up-to-date and authoritative data coupled with an appropriate update cycle
- Data just wants to be free!!
- People who have had more experience selling their data realize that it's just not worth it. Perhaps education and outreach to communicate this issue.
- Freedom Data is 139 layers and public domain and stewarded

SOLUTIONS:

- Streaming web services is as fast as displaying aerial imagery .sids from local disk
- Tribe trying to get taxlots from counties for ceded lands. Not easy. Previous experience in Montana was much easier
- Fee waiver from counties for taxlots
- Military Dept uses taxlots extensively
- Inventory of available data
- Distinguish between "the resource" and "the resource data"
- "Jobs in the woods" type program for GIS data creation
- Use short term \$ to gather needed data. Need to have a list of tasks/projects/proposals ready
- Establish authoritative contact for datasets
- Is metadata complete? Shouldn't this have that authoritative contact?
- Enterprise communication:
 - Target the right people
 - Set priorities
 - Blog / Forum
 - Respond to change
 - Policy connection
 - Preferences management
 - Mechanism to capture needs / resources
- Contact list for data discrepancies
- Give State GIS Coordinator appropriate authority. Would a benevolent dictatorship help? GEO has an "unpowered mandate" to coordinate GIS
- Offer something in return for stewardship commitment. Perhaps building applications for stewards would be an incentive. what about a stratified caste system where those who participate in stewardship activities are able to partake of more free services
- Conduct inventory of data stewardship
- Military operates under a federal mandate that forbids them from creating data that has already been created by fed, state or local entity
- Do a survey and discover "who does what" as a starting point...
- Think "resources" instead of "funding" to identify more opportunities to foster

- Another way to phrase this is to identify resource constraints
- FIRST identify all needed activities at an enterprise level, THEN look at resources, THEN identify duplication
- Must be ongoing so it doesn't get stale
- Not another state data center, no more bureaucracy
- Keep it small
- Must have performance measures
- Must live beyond individuals
- Identify and foster GIS champions in each organization
- Someone should be empowered as the caretaker of the enterprise
- Use web services and web mapping applications more to make data accessible
- Establish formalized and standardized connection between field and GIS operations in agencies
- Technical consultation both internal and contracted
- Training
- A system that would provide data, steward communication, coordination and news all in one

June 16th Portland

PROBLEMS:

- Network speed regarding access to non-local data. local storage is faster access but has problems
- Make data available to users in multiple formats – interoperability (ESRI's job?)
- Data sharing state/local
- Inconsistent data quality statewide
- Where to send data?
- Internal politics damage data sharing
- Some data is confidential, sensitive, secure, etc.
- When people leave an organization we often have to start over from scratch
- Politics (internal and intragovt) can screw with sharing and data producers and users
- Not all data can be shared. Bridge plans are an example. Sensitive species is another...
- Speed of data access

CONCERNS:

- Local copies of data take up lots of space and get outdated
- Single software platform could lock out some users
- Appropriate use of data – metadata must be available
- Data sharing between levels of government can be used against each other
- Conversion to different formats vs. being locked into single vendor solutions
- "Official requests" can take a LONG time. Informal trades build on long working relationships are much more productive (ODOT) Described as professional rather than official. This was done many times for different products, this is raw data, may not even be electronic data...
- It takes a long time to build the informal networks and they break down once someone moves on...
- How does an end user know if they are misusing the data?
- Communication is still a big issue - often there is a breakdown in information flow within organizations
- What happens to data sharing when there are lawsuits between the sharing entities?
- Webservices implies 24/7/365 and formal process and formal data
- What is the flow of the data to the stewards? Is the GEO function needed once all stewards are established?
- Counties (Eric) has real concerns about data moving to Feds/public domain inadvertently
- Eric says BLM and FS just asked for linework and TLID. No names/addresses

DATA: (none recorded)

SOLUTIONS:

- COP apparently uses FME as it's data conversion engine
- Webservices are a potential solution

- METRO and Wash Co are experimenting with "formalized network connections". More to replace ftp/data transfer than it is to pull into an MXD. This is a proof of concept. It's not a WAN. In Wa. Co. there IS a WAN connecting Co and cities.
- Formalize data sharing process to help make it endure beyond
- "Prove" each others data
- Build quality feedback loops into stewardship agreements
- It really comes down to relationships. The agreement, process and other processes are necessary but should allow flexibility
- Maybe we can learn from other ppls work: NHD, Zillow, etc
- Webservices changes the picture from the way it was done with CDs
- Static to "stuttering" to streaming
- One role of GEO is to establish formal stewardship agreements. Formalizing them reduces churn and misuse. Keep politics out of the data flow
- Formalizing data sharing is not about trust but about knowing what approp use of data is.
- Investigate the existence of a "confidential attribute" field
- Focus on the "economies of scale"
- Have access to taxlots directly from counties via streaming
- In METRO RLIS was not seen as an Enterprise solution but simply as a byproduct
- Emergency response can be the big driver
- Eric - we have a big opportunity to develop apps to easily access and use all this statewide data
- Id these big issues: emerg response, planning, environmental issues (Cy has more ideas on flips) (Steve Jett)
- Inventory/portal to the individual efforts - the DHS and DEQ and other efforts
- Invasive species
- Extend the best practices/concepts of METRO/RLIS statewide
- METRO is more interested in working with statewide partnerships
- Matteo is writing an article on history of RLIS
- Capture the innovative ways people might use the data once it's released into the wild - tipping point
- Solve the BIG business problems:
 - multilevel/jurisdictional
 - emergency response. After hours response
 - land ownership queries
 - land use planning
 - environmental management, planning
 - vegetation/invasive species, impervious surfaces, water/contaminated wells
 - vulnerable populations, schools, nursing homes, nearest clinic, etc
 - environmental justice
- Stewardship so that data is sustainable and updated 24x7x365 to build on
- Develop intrastate agreements for stewardship
- Technical solutions for secure/confidential data? Pdf example
- Share the data that you ca. Don't let a single sensitive element kill it
- Pursue agreements with Federal Government to not place data in public domain
- Web services for uses without GIS software
- Network connections to SDE servers via WAN
 - METRO and Washington Co. proof of concept
- Trade data state and local
- Prove each others data – cooperative QA/QC
- Regional data stewards
- ODOT has agreed to be road data steward and institutionalized the process
- DOR will likely be tax lot steward
- Always a role for personal relationships
- Formalization solves:
 - currency

- accuracy
- completeness
- consistency
- etc

June 19th Roseburg

PROBLEMS:

- Inconsistent base data
- Confusing methodologies
- Too many standards – sometimes even within organizations
- Difficulty finding authoritative data
- Having found “authoritative data” how do you know it’s the right data for your task?

CONCERNS:

- Homeland security concerns with utility and other data
- If you have State run apps how do you manage stand alone copies?
- Coordination with Census

DATA:

- How do we make the BIG datasets available to the public? Lidar, imagery, etc
- Make the new Census data available in a timely manner
- What is GEORSS and might it be useful to us?
- It’s a pain to keep local copies of the data but sometimes it’s the only solution

SOLUTIONS:

- Encourage people to share their data
- Published list of data needs by sector
- A list of data that people would 1) like to have, 2) need for business process
- More cooperation with Federal government – critical habitat example
- State houses County data and runs applications but County still owns data and can edit it and sell it
- Establish a legal mandate for compliance with standards, sharing, etc
- Establish carrots for private sector to participate in above
- Counties would like to see emergency services/response and situational awareness data widely and consistently available. This includes:
 - Fire
 - Ambulance
 - Sheriff
 - Forestry
 - Federal land managers
 - Tribes
 - Public health
 - More
- Make this data available as a mapservice
- Look at solutions in other states – Mt, CA for wildfire
- Census activities – what about their new data? Did they get better or more complete location info?
- Face to face meetings but close by to minimize travel
- Access to training would be an incentive to establish stewardship
- Establish version numbers for data just like software. Users can then easily determine currentness

Appendix D

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Section 1: Premise and Proposal

1.1 PREMISE

Public agencies and non-governmental organizations in Oregon depend on maps and geographically referenced information to support day-to-day operations and longer-term planning and decision-making. Despite substantial, ongoing investments in geographic information and GIS technology in the state, users and potential users continue to experience limited access to important GIS information or the technology to use it. In fact, at least 80 percent of the information collected and managed by governmental bodies is geographic in nature—that is, the information has some locational key such as address, road segment, map coordinate, or district identifier. In summary:

- Multi-jurisdiction geographic information management can be more efficient and better coordinated.
- Organizations can more fully capitalize on past and current investments in GIS.
- Considerable redundancy and duplication in data collection, data maintenance, data storage, and system resources across and within organizations can be reduced. Simultaneously, data maintenance planning and activities can allow programs to be more effective in satisfying their mandates.
- Complete, high-quality GIS data coverage is incomplete and data quality will not allow all broad-based user needs and citizen expectations to be met.
- Procedures, standards, and stewardship practices for effective maintenance of regional and local geographic data can be improved.
- Access to data and technology can be more consistent, with less regional disparity.
- Opportunities for leveraging outside funds can be more fully explored and realized.

For a wide range of programs and projects, staff and program managers spend considerable amount of time just gathering or pulling together information from a wide range of sources. Geographic information is hard to find, access, and integrate in a manner that makes it useful to those who need it, when they need it. The problem is rooted largely in policy and organizational procedure and not, as commonly assumed, in technical hurdles. Administrative barriers, poorly defined management authority, problems in allocating and using available funding, and inadequate management controls have resulted in missed opportunities, duplication of resources and effort, and inconsistencies in data format and quality, which inhibit the use of valuable geographic data and complicate ongoing data maintenance processes.

1.2 PROPOSAL

The Oregon Geographic Information Council (OGIC) and the Information Resources Management Division (IRMD) propose the development of the **Oregon Statewide GIS Utility** to help solve these problems. The GIS Utility initiative will establish and maintain an administrative and operational structure to support effective creation, maintenance, sharing, and access to geographic information, and it will do so in a way that support the program needs of state agencies and the wider governmental and non-governmental communities throughout Oregon. Its overall impact will be to reduce the cost and duplication of geographic information management while delivering tangible benefits to a large community of users statewide. The results of the analysis presented in this report confirm the short-term and long-term benefits of the GIS Utility and justify the investment in time and resources to initiate the program and bring the GIS Utility to a full operational status.

1.3 BUSINESS CASE

The proposed GIS Utility development is supported by a sound business case showing substantial, ongoing benefits for public agencies, private companies, and the general public. This Business Case documents a clear, long-term return on investment, as well as significant non-financial benefits that will improve operations, delivery of services, and the effectiveness of public agency programs at the state, regional, and local level. As explained in this Business Case, GIS Utility development is based on the following key benefits and outcomes:

- Staff efficiency/productivity increases which, when measured in monetary terms, can result in annual savings of more than \$80 million for state agencies and at least \$100 million for city and county governments throughout the state when the GIS Utility is fully deployed

- Opportunities for actual cost savings and revenue enhancement (increase) of well over \$80 million over a 10-year period
- Greatly increased opportunities for securing outside funds for GIS development and related technology projects statewide
- Tangible, non-financial benefits resulting in robust information security, improved quality of service, enhanced emergency preparedness and public safety, responsiveness to needs of Oregon citizens and businesses, and better management of the state's environment and infrastructure
- Support for state-regional-local collaboration and the extension of information technology capabilities to currently underserved jurisdictions
- Stimulus for economic and business development and public-private partnerships.

In summary, the GIS Utility program:

- Addresses important business needs of a large, statewide community of users
- Will deliver substantial financial and non-financial benefits in the short-term and long-term
- Will build and capitalize on existing networks, systems, and geographic data investments
- Can be largely supported by a better management and leveraging of current state, federal, and local expenditures for geographic information data and technology

Appendix E

OGIC Membership

Dugan Petty, CHAIR, State Chief Information Officer, Oregon Dept. of Admin. Services
Dean Anderson, IS Director, Polk County (representing Oregon GIS Association)
Roy Elicker, Director, Oregon Department of Fish and Wildlife
Vicki McConnell, Director, Department of Geology and Mineral Industries
Bob Bailey, Ocean/Coastal Services Mgr, Dept. of Land Conservation and Development
Tim Wood, Director, Oregon Department of Parks and Recreation
Phil Ward, Director, Oregon Department of Water Resources
Rick Howard, Chief Information Officer, Oregon Department of Human Services
Dr. Duane Dippon, Bureau of Land Management, U.S. Dept. of the Interior
Kerri Nelson, Mgmt. Services Administrator, Department of Environmental Quality
Cynthia Wickham, Assistant Director, Oregon Division of State Lands
Greg Sieglitz, Monitoring/Reporting Mgr., Oregon Watershed Enhancement Board
Jim Bucholz, Property Tax Division Manager, Oregon Department of Revenue
Jim Meacham, Oregon University System
Larry Harker, RLIS Administrator, Association of Oregon Counties
Robert Swank, Associate Director, Lane Council of Governments
Sandy Jefferson, Chief Information Officer, Oregon Department of Forestry
Graham Slater, Research & Employment Services Mgr., Department of Employment
Jane Bacchieri, Natural Resources Advisor, Governor's Office
Julie Pearson-Ruthven, HAVA Coordinator, Secretary of State's Office
Sheri Schneider, State Liaison, U.S. Geological Survey, U.S. Dept. of the Interior
Ray Jaindl, Natural Resources Administrator, Oregon Department of Agriculture
Jerri Bohard, Transportation Development Administrator, Department of Transportation
Dennis Ruth, Geospatial Information Officer, Oregon Military Department
Cy Smith, Statewide GIS Coordinator, Oregon Dept. of Administrative Services