The Ohio Geographically Referenced Information Program 2006 - 2009

Strategic Plan

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Introduction

Organizations must change their focus to address trends and events. When the Ohio Geographically Referenced Information Program (OGRIP) was initially conceived in the late 1980's, forward-thinking local governments were struggling to build information systems that would merge the power of maps with relational database technology. The technology known as GIS (geographic information systems) was still arcane and standards for data exchange were virtually unknown.

In 2006, every level of government recognizes the need to make effective use of spatial data. The term Homeland Security was outside the consciousness of the average person on the street until 2001, but recent events such as the devastation following Hurricane Katrina remind the nation that information about people, places, and things can help us stay healthy if we use it wisely, or negatively impact emergency situations if we do not have up-to-date information to support emergency response. Today, the one commonality that exists between all levels of government is a shared view of location and place, or simply put - the geography. The ability for different levels of government to interact and support each other in any emergency event is based upon the ability to communicate effectively about factors impacting location, place and people. One way to do this is by using the same geography.

Today, OGRIP seldom assumes its former role of evangelist in GIS technology. On the other hand, its function as catalyst for data coordination, data exchange and data sharing, standards adoption, and effective reuse of mapped information has never been more necessary. For that reason, the 2006 OGRIP Strategic Plan proposes a number of initiatives to address the continuing need for a coordinated approach to creating and sharing geographic information that is tempered to the times.

The Organization and it's Purpose

OGRIP promotes effective use of geographic data—data that includes a reference to place, such as street address, voting district, or coordinate position. Established in 1988, OGRIP was formally created by Executive Orders issued by Governors Voinovich (93-010-V) and Taft (99-10T and 2000-05T)[1] shaping the organization into its present configuration. OGRIP's charge is to:

1. Provide a leadership role in the establishment of a system of collection and dissemination of spatial data
2. Coordinate GIS activities within the state that provide for the efficient collection, management and use of geographically referenced data
3. Establish a GIS Forum to assist in the coordination of GIS activities and to encourage access and consistency with other GIS systems to the maximum extent possible
4. Represent the interests and concerns of all state and local government agencies.[2]

Consisting of a Council that deliberates on and directs its activities, and a Forum that provides a opportunities for users and creators of spatial information to meet and exchange ideas, OGRIP reflects a truly multi-organizational approach to spatial data coordination. Table 1 shows the Council's make-up and current representation.

County Auditor's Association of Ohio (CAAO) [Fairfield County]	Office of Information Technology (OIT)
County Commissioners Association of Ohio (CCAO) [Lucas County]	OGRIP Forum Chair
County Engineers Association of Ohio (CEAO) [Seneca County]	Ohio Association of Regional Councils (OARC) [Brooke-Hancock-Jefferson MPC]
Department of Development (ODOD)	Ohio Environmental Protection Agency (OEPA)
Department of Natural Resources (ODNR)	Ohio Municipal League (1 for cities over 100,000) [Cleveland]
Department of Transportation (ODOT)	Ohio Municipal League (1 for cities under 100,000) [Galion]
Institutions of Higher Learning [Cleveland State University]	Public Utilities [American Electric Power (AEP)]

Table 1 – OGRIP Council Composition as of May 2006 - Current Appointments in Brackets

[1]See Appendix A
[2]E.O. 2000-05T

OGRIP is housed in the Ohio Office of Information Technology's Enterprise Shared Services/Service Delivery Division along with the GIS Support Center (GISSC). GISSC is the implementing arm of OGRIP and provides technical and administrative support for OGRIP programs, maintaining close contact with geospatial data creators and users in state and federal agencies, in addition to Ohio's 88 counties and regional government groups.

Vertical Integration: OGRIP's Reason for Being

Each year, tens of millions of dollars are spent mapping our country. Many of these mapping efforts are "one off" projects undertaken for some particular purpose (e.g., riverine flooding, highway planning). At the same time, local governments are creating robust portrayals of the lands within their jurisdictions, oftentimes as part of a GIS program. These programs show the parcels, utilities, buildings, district boundaries, zoning, and other significant features of both the built and natural environments using accurate maps and associated databases.

Since 1990, the total GIS-related investments made by Ohio's local governments and utility companies have approached $100M[3]. In FY 2001, state-level expenditures for spatial data management have "reached almost $46M"[4]. Why can't these governments share data and information? Not only can these groups share spatial data, but they must share spatial data if costs are to be contained.

As suggested in Figure 1, technical and institutional mechanisms must be created to enable Vertical Integration of geographically referenced data. The basic tenet of this concept is, "capture it once, use it a bunch."

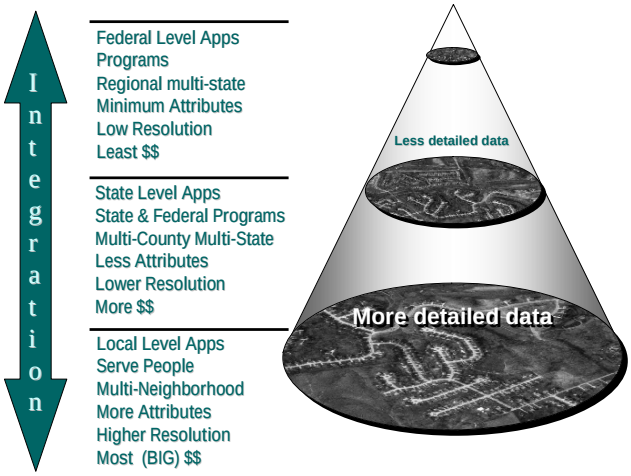

Figure 1 – Capture It Once, Use It a Bunch

This figure summarizes the overriding reason OGRIP exists: *to facilitate data sharing among governmental groups so that taxpayer funds are used wisely and spatial information, once captured, is used and reused as many times as possible. OGRIP fosters a bridge of cooperation between federal, state and local governments.*

Initially, OGRIP encouraged an enterprise perspective at the local level by educating county entities and potential partners about the benefits of comprehensive GIS programs as opposed to developing their own GIS programs with little interaction with other partners. Vertical Integration is the logical evolution and progression of GIS development and fiscal responsibility. Collaborative initiatives that share resources and leveraging data collection efforts are resulting in taxpayers' savings.

In Ohio, implementing this concept is providing a broader view of data sharing. Today, collaborative efforts go beyond individual counties and are being embraced by the state. Statewide spatial programs are now being designed and implemented using vertical integration concepts and are being driven from an enterprise perspective.

[3]White Paper on the Ohio Location Based Response System, August 2004, EMA, Inc., Page 7
[4]Executive Summary of the Ohio Spatial Data Cost-Benefit Analysis, August 7, 2001, PlanGraphics, Inc. and Booz Allen Hamilton, Inc., Page 12

The basic concepts of vertical integration were developed by the Federal Geographic Data Committee in 1997 and articulated through the National Spatial Data Infrastructure (NSDI). The NSDI is a means to assemble geographic data nationwide to serve a variety of users. Within the NSDI Framework were seven geographic data themes – geodetic control, orthoimagery, elevation, transportation, hydrography, governmental units and cadastral information as describe in Appendix C. OGRIP endorsed the NSDI and developed Ohio's Spatial Data Framework based upon the National Framework data themes. Framework data consists of those data themes that comprise the key pieces of geographic data that allow us to visualize our world within a computerized setting. Reflecting the federal model of the National Spatial Data Infrastructure (NSDI), the Ohio Spatial Data Framework (OSDF) consists of geodetic control, imagery and DEMs (Digital Elevation Models), transportation, hydrography, cadastre (parcels), cultural boundaries, and metadata.

OGRIP Activities

The OGRIP Office attends to a number of activities during the course of each year. These activities include sponsoring conferences, interacting with participating groups, and serving as liaison to a number of "outside" groups. Some of the regularly scheduled functions of OGRIP with support of the GISSC are the following:

- Facilitate and administer the GIS Profile database, a means of publishing the status of GIS-related activities at the county level, including information about points of contact, system status, staffing, applications, data dissemination policies and media, and other key information. The profiles, created in 2001 are accessible through the OGRIP website and maintained by the County GIS contacts.
- Facilitate multi-agency funding efforts in support of statewide initiatives beneficial to all levels of government, consistent with the vertical integration concept.
- Liaison with the following:
  - National organizations such as the National States Geographic Information Council (NSGIC) the Urban and Regional Information Systems Association (URISA), National Emergency Numbering Association (NENA) and others.
  - Federal agencies active in geospatial data affairs, including the National Geodetic Survey (NGS), United States Geological Survey (USGS), and the Census Bureau. OGRIP is 1 of 3 agencies that share funding to support an NGS State Advisor to Ohio.
- Provide presentations and status updates at meetings of cooperating groups (e.g., CEAO, CAAO) ; monthly meetings of the OGRIP Forum and quarterly meetings of the OGRIP Council; regular reporting of OGRIP activities to senior managers of the Office of Information Technology (OIT)
- Conduct yearly Ohio GIS and Ohio Land Records Modernization Conferences held collaboratively with CEAO, including arranging sessions, providing speakers, and facilitating/ moderating informational and technical sessions

In addition to regularly scheduled functions, the OGRIP Office and GIS Support Center carry out numerous efforts in support of vertical integration. Three initiatives are described below:

- The Location Based Response System (LBRS) is a $7M program to develop highly accurate street centerlines with address ranges and field verified site address points through partnerships with local governments. Staff at the GISSC manage this program, coordinating negotiation of MOAs (memoranda of agreements), and publicizing the program to all counties. All funding is earmarked for county participation and supports cross-agency data sharing for, among other things, emergency management and economic development. [on-going]
- Ohio Statewide Imagery Program (OSIP) is a $5.6M program to acquire 1-foot pixel resolution color imagery with a 2-foot Digital Elevation Model (DEM) for the entire state to support spatial analysis. This program also provides local government the opportunity to

leverage the state's contract to enhance the state's product and obtain an economy of scale. [on-going]

- GISSC has developed a data portal to promote information discovery, access and exchange in the digital environment. The GIServOhio uses server technology to provide a convenient means of "shopping" for the most current data under the custodianship of OGRIP's cooperating partners or, in some cases, from a storage location maintained by OGRIP on behalf of entities who do not want to be distracted fulfilling requests for spatial data. GIServOhio will promote data exchange using non-proprietary technologies. More than 5,000 spatial data sets are available online at http://metadataexplorer.gis.state.oh.us/metadataexplorer/explorer.jsp.

Further details about OGRIP activities are included in Appendix B.

Mission Statement

The mission of the Ohio Geographically Referenced Information Program (OGRIP) is to encourage GIS activities that enhance the development and use of reliable digital geospatial data through communication, coordination, cooperation, and collaboration. OGRIP accomplishes its mission by: educating organizations about GIS and other related technologies; communicating the benefits of GIS and cooperative efforts; raising awareness regarding GIS initiatives in Ohio; identifying points of contact in organizations focused on the development and usage of geographic data; identifying data sources and resources for potential use for organizations; instilling appreciation for the benefits of partnerships among organizations for geographic data development, sharing, and GIS programs; and continuing to provide direction regarding enabling spatial technologies beneficial to Ohio.

Vision

Through the efforts of OGRIP, Ohio will be a best practices model for data sharing and informed use of spatial data.

Operating Guidelines and Principles

To ensure a continuing focus on data sharing, OGRIP must provide outspoken leadership and serve as the lead GIS promoter for Ohio. OGRIP must demonstrate and articulate the value of geographic information for effective decision making and continue to serve Ohio as a central point of GIS data distribution. OGRIP must communicate activities and initiatives across the state and identify potential areas for cooperative efforts. OGRIP's operating guidelines and principles are focused on **communication, cooperation, coordination,** and **collaboration**.

Communication is the cornerstone of OGRIP's existence. By communicating what others are doing, OGRIP can create and provide mechanisms for cooperation and coordination. Currently OGRIP communicates through email, the Internet, newsletters, meetings, and presentations. For OGRIP to fulfill the Governor's mandate for coordination of spatial data and spatial systems, as well as the sharing of geographic data, partnerships and participation must be increased. Partnerships and participation are founded on communication.

Encouragement of **Cooperative** efforts between entities (federal, state, and local government and the private sector) is critical to meeting OGRIP's goals. Formal and informal agreements must be developed to support data collection within and among these entities. These agreements could be the forerunner of regional programs that view geographic data as a community resource.

Coordination of spatial data collection efforts can lower the costs of data capture, reduce data redundancies (where possible), and increase benefits associated with data usage. OGRIP needs to initiate the coordination and development of two levels or tiers of digital geographic data coverages within the next five years. One tier will be focused on the needs and requirements of state and regional agencies with an agreed upon framework for data sets and consistent coverages across the entire state, and the other on local government needs and requirements representing a patchwork quilt of more detailed data. Significant data on both levels exists today, but only through increased coordination can the development of these coverages be achieved.

Because the GIS Support Center offers technical assistance for OGRIP programs, a level of **collaboration** has been achieved between OGRIP and its cooperating organizations. GISSC staff maintains GIServOhio, a data portal dedicated to data sharing and publication tasks. To the extent staffing levels allow, the GISSC will continue to partner with geospatial data users in promoting data exchange, maintenance and update to benefit users throughout the state.

OGRIP will continue to coordinate GIS data collection efforts in Ohio. We will provide leadership, guidance, and direction for those seeking spatially related information and information about GIS technologies. OGRIP can also provide support to local governments and state agencies to reduce the risks of GIS implementation. Our practical assistance can increase community resource development and the ability to share data.

Today, OGRIP serves as a central point of contact connecting organizations to geographic data sources and data providers. OGRIP coordinates spatial information resources by promoting cooperative efforts between all levels of government and the private sector. It supports myriad educational venues and fosters GIS education through the Forum, informal and formal presentations, conferences, seminars, and sponsorship of special activities.

Goals

The goals of the organization are to:

- Encourage the creation of digital geographic data of value to multiple users
- Foster the ability to easily determine what geographic data exists
- Foster the ability to easily access data
- Encourage the informed use of geographic data.

Objectives

In order to reach OGRIP's goals, five objectives will be emphasized over the three year planning horizon. Each objective is described in this plan along with a series of tasks and performance indicators. The objectives and their associated tasks may overlap one another to some extent, since there are interdependencies among the various task groups.

Objective: Promote Framework Data Development, Publication, and Exchange

OGRIP established volunteer-staffed Task Forces to define the contents and formats of each of the NSDI framework data elements. Task Forces have met and concluded their work on some data sets, but further work (as outlined in this document) will be needed.

Developing and maintaining framework data in a collaborative way will benefit all of Ohio's residents over time. This objective proposes a series of activities that will advance the reality of routine framework data sharing. This objective supports all four of OGRIP's goals.

Framework Theme: Geodetic Control

Geodetic control points consist of highly accurate horizontal and vertical positioning stations. Control points that have been rigorously established and observed according to prescribed standards may become a portion of the National Spatial Reference System (NSRS). The lead agency for maintaining records related to the NSRS is the National Geodetic Survey, which supplies a Geodetic Advisor to the state of Ohio.

Geodetic control is important to GIS users because virtually all positional data contained in GIS databases refers to some recognized datum (referencing system) published by NGS. Since there are a number of differing mathematical models of the earth, knowledge of the reference datum is key to relating an individual data set to any other.

OGRIP's geodetic control emphasis over the planning horizon will include the following:

1. Creating appropriate linkages between the OGRIP web site and sites such as the FGDC (Federal Geographic Data Committee), NGS, and the Federal Geodetic Control Subcommittee (FGCS) to provide a convenient connection to information about geodesy, datums, and shared resources
2. Publicizing updates about geodetic control on GIServOhio as part of the regular communications program that includes:
    a. Preparing Ohio for the latest National Spatial Reference System (NSRS) adjustment to the 1983 North American Datum (NAD) to be released in February of 2007 and
    b. Seeking endorsements of state organizations and associations of the NSRS adjustment.
3. Working with State Agencies in support of appropriate educational events, such as seminars or short courses, that may be offered by cooperating organizations.
4. Providing oversight and guidance to assure that the metadata accompanying submittals for publication through GIServOhio contain appropriate references to reference datums.

All four listed tasks will be performed by OGRIP staff and/or members of the staff of the GIS Support Center (GISSC). Performance indicators include completing item 1 by March 15, 2007 and performing a yearly review for conformance with items 2, 3, and 4.

Framework Theme: Imagery and Digital Elevation Model (DEM)

Imagery is quickly becoming a key part of communicating issues about locations. As previously stated, everything happens somewhere and having imagery of locations furthers our understanding of the issues impacting location. Unlike compiled (line and symbol) maps, imagery is intuitively understood by members of the public and GIS professionals alike. The volume of users accessing imagery through Microsoft's Virtual Earth and Google Earth interfaces bear this out. Ortho-rectified imagery is spatially adjusted to a digital elevation model. Map distances and locational data on rectified imagery reflect actual measured distances, ground coordinates, and vertical heights, or elevations. Using georeferenced imagery across the state provides a foundation for data integration.

Virtually all local government GIS implementations across Ohio have acquired image data. State agencies such as ODOT and ODNR make regular use of imagery to support their missions. At the same time, local governments in portions of the state where spatial data automation lags behind have little or no capability to make practical, everyday use of imagery.

Ohio has initiated a statewide imagery acquisition and update program called the Ohio Statewide Imagery Program (OSIP). While existing federal imagery programs (e.g., NAIP-National Agriculture Imagery Program, DOQQ) already contain imagery of our state at planning resolutions, OSIP is a comprehensive program that provides a more detailed (one foot pixel) view. A 1-meter Digital Elevation Model (DEM) will be created through OSIP using Light, Detection and Ranging (LiDAR) technology. This will improve Ohio's elevation data from a 30-meter posting to a 2-meter posting providing better support to floodplain and terrain mapping, etc.

In keeping with the "capture it once, use it a bunch" mentality, OSIP provides the opportunity for counties to contribute financially if they desire to enhance the mapping product to higher resolutions for their own purposes.

OGRIP is attempting to secure additional funding to sustain this program beyond 2008. Potentially, this funding could come from a national initiative called Imagery for the Nation (IFTN) proposed by NSGIC. OGRIP was one of the first states to endorse the IFTN and is following its progress closely. Tasks to be accomplished in connection with this framework data theme include:

1. Provide project oversight, quality assurance and quality control (QA/QC) on the Spring imagery capture for the North half in 2006 and the South half in 2007
2. Continue phased updates on an annual or semi-annual basis.

The organizations represented on the Council have endorsed this program and provided support where appropriate. The outcome of item 1 will drive the performance of the subsequent steps. Performance indicators include completing item 1 by December 31, 2006 and ongoing management of a sustainable program. Progress on item 2 will be reported on a quarterly basis.

Framework Theme: Transportation

Information related to transportation is important in many endeavors. Effective access to current data about the locations, capacities, and quality of various transportation modes can impact decision-making in such areas as homeland security, emergency response planning and execution, economic development, private commerce, and public health. While progress is being made in capturing better information about roads and highways through the Location Based Response System (LBRS) initiative, data on other modes of transportation may not be so conveniently available.

1. The LBRS program will be continued. Appropriate data publication measures will be developed after consultation between managers of GIServOhio and the GIS staff at ODOT. Internet-based data exchange to/from local governments should be encouraged using GIServOhio as an intermediary to ODOT or as a production point if suitable tools are developed. Outreach efforts to encourage county participation should be accelerated if funding continues as expected.
2. A prioritization process should be used to determine which additional transportation data sets have a high public need. Both the Forum and Council could be involved in the process.
3. After determining transportation data priorities, data development steps should be identified. If necessary, funding sources should be secured. Agency/participant groups will be identified to provide subject matter expertise and data quality oversight.

Staff roles for the LBRS will continue as they have already been established. Staff resources needed for items 2 and 3 will be determined after formulation of an action plan. Target performance indicator for the LBRS will be 95% participation (84 counties) by October 1, 2008. The prioritization process (item 2) will be completed by October 15, 2006. A resulting action plan should follow within 30 days, with a timetable identified for completion.

Framework Theme: Hydrography

Understanding hydrography is important to everyone. Effective management of waterways and watersheds cannot occur without access to accurate hydrographic information. The OGRIP Council has already endorsed efforts to modernize Ohio's portion of the National Hydrography Dataset (NHD), but more work needs to be accomplished.

The NHD is a digital spatial data set that contains information about surface water features such as lakes, ponds, streams, rivers, springs and wells. Unfortunately, the portions of the state that are already represented in NHD-consistent format are only those portions at or near Ohio's state boundaries. What remains is the process of taking Digital Line Graph (DLG) data published by the United States Geological

Survey (USGS) and building a data file that incorporates reach-related information from the EPA Reach File Version 3 (RF3) to cover the areas not already mapped. OGRIP plays a role in communicating, coordinating, and collaborating with various segments of the spatial data user community, elected officials, and state and federal agencies to see that this important data set is created and made available for the benefit of many potential users.

Tasks to be accomplished in connection with this framework data theme include:

1. Facilitate the determination of organizational roles
   a. Support the identification of an agency (or agencies) that will become the steward for this data set
   b. Identify collaborating agencies that may offer subject matter expertise
2. Help secure funding source(s) for the program
   a. OGRIP should help communicate the need and business case
   b. OGRIP may help identify and coordinate funding sources
3. Facilitate the development of an RFP for data production and secure internal approvals
4. Determine the appropriate mechanism and sponsoring agency for releasing the RFP and make contractor selection
5. Ensure project oversight, quality assurance and quality control (QA/QC) are integral components of the program
6. Continue phased updates on an annual or semi-annual basis following data development, establishment of an explicit data publication role, and procedural routines for data updating
7. Develop a Phase 2 Plan for data enhancement utilizing local and regional data sources.

Responsibilities for accomplishing these activities may be shared by the Hydrography Task Force, staff from the designated data steward (and perhaps collaborators), along with staff at the GIS Support Center. Items 1 and 2 should be complete by October 1, 2006. All other dates associated with this objective are arbitrary until items 1 and 2 are completed.

Framework Theme: Cadastre (Parcel Information)

Cadastral data pertains to real estate (e.g., extent, area, valuation, ownership, zoning designation, and encumbrances). In Ohio local governments, information contained in the records of County Auditors is the richest source of cadastral information.

The extent of real estate (boundaries) is suggested by the configuration of parcels noted on assessment maps (often referred to as “tax maps”). These maps do not establish the locations of land boundaries, however, since those must be determined by a court of competent jurisdiction.

Despite the fact that tax maps are only a suggestion of the limits of ownership, having access to parcel geometry is critical to many public programs. Parcel configurations often determine how school or tax district boundaries are described. Parcel geometry represented on assessment maps effects which abutters will be notified in the case of public hearings. Knowledge of parcel locations, and their relative position to other parcels and additional resources, is critical in making economic development strategies become successful job-creating projects.

A cohesive statewide parcel data sharing strategy is needed. Creating this strategy will require assent from the state’s County Auditors and County Engineers. The Ohio Cooperative Information Agreement (OCIA)[5] agreement will contain language describing the clear intent of the strategy, but individual partnering agreements may require additional language to incorporate special conditions encountered on a county-by-county basis.

The anticipated tasks needed to create the strategy include the following:

1. Request that the Cadastral Task Force freshen its recommendations to include not only suggestions on attribute data content but draft data sharing policy language that can be

[5]See OCIA-related Objective beginning on page 13 of this document.

offered to collaborating organizations (e.g., CAAO, CEAO)
2. Engage the Council (and possibly Forum) in review of Task Force recommendations to determine suitability and sensitivity of chosen language and that the language address such key issues as frequency of update and maintenance
3. Following Council endorsement of specific language, begin an outreach campaign to related organizations (CAAO and CEAO) with the intent of securing an official endorsement from each group
4. Roll selected language into the OCIA agreement

The Cadastral Task Force will conclude its recommendations for suggested agreement language by December 1, 2006 (item 1). Council (and possibly Forum) review will be completed by March 1, 2007. Outreach (item 3) will be complete by July 1, 2007.

Framework Theme: Cultural Boundaries

Information about cultural boundaries is important to many users of geographic data, both in the private and public sectors. Private sector marketers, market researchers, and commercial companies associate information about consumers with demographic data such as age and income figures in the hopes of making the most of their advertising dollar. To support this activity, they need to know what portion of a community, county, or state in which the consumer resides. The consumer's location will fall inside one or more cultural boundaries (e.g., municipal boundary, county boundary, school or tax district), any of which may prove pertinent.

In the public sector, having reliable data about cultural boundaries is important as well. If cultural boundaries are mismarked or otherwise incorrectly portrayed in a mapped database, how are dispatchers to know which ambulance service, Police or Fire Department to summon? If county or city boundaries are mislocated, the apportionment of taxes may be incorrect and subject to review, redress, or litigation.

Cultural boundaries correctly represented within public records are important for economic, social, and safety reasons. The exchange of data portraying cultural boundaries will be addressed in the OCIA[6] agreement, either as a standalone data set, or as an adjunct to parcel (cadastral) data. Cadastral and cultural boundaries often (though not always) represent the same physical location.

The anticipated tasks needed to create the cultural boundary data strategy include the following:

1. Reconvene the Cultural Boundaries Task Force to deliberate about and suggest data sharing language that may reflect the language developed in conjunction with cadastral data
2. Engage the Council (and possibly Forum) in review of Task Force recommendations to determine suitability and sensitivity of chosen language and that the language address such key issues as frequency of update and maintenance
3. Following Council endorsement of specific language, begin an outreach campaign to related organizations (e.g., Secretary of State, CAAO, CEAO) with the intent of securing an official endorsement from each group
4. Roll selected language into the OCIA agreement

The Cultural Boundaries Task Force will conclude its recommendations for suggested agreement language by December 1, 2007 (item 1). Council (and possibly Forum) review will be completed by March 1, 2008. Outreach (item 3) will be complete by July 1, 2008.

Framework Theme: Metadata

The word metadata means "data about data." GIS metadata lists the source, resolution, quality, geographic extent, conditions of use and release, data steward, and other details about a geographic data file. Metadata is a key component of the Ohio Spatial Data Framework because it helps facilitate

[6]See OCIA-related Objective beginning on page 13 of this document.

informed data use. For example, if one becomes aware that information about parcel ownership was last updated five years ago, how much confidence does one have in an ownership name query? Or, if metadata indicates that the location of a site feature was determined by a field survey last year, is the location likely to be more or less reliable than data taken from old utility as-built drawings? Without metadata, spatial data users cannot apply sound judgment when there are conflicts between differing attribute tables or coordinate locations for the same feature.

Metadata describing the geographic extent of a data set is particularly important to support the state's clearinghouse function. Users who visit GIServOhio may have an area of interest in mind bounded by geographic coordinates. They will wish to search the records contained in the clearinghouse for types of information that meet their criteria (e.g., imagery at a one meter resolution or better) for their selected geographic extent. If the system has appropriate metadata, informing the user about available data will be quick and reliable. If no metadata exists, the user will be required to inspect each image data set meeting the area condition to determine its suitability for the intended purpose.

In order to further OGRIP's goals, the steps to be taken in developing appropriate metadata will include the following:

1. The Metadata Task Force should meet and complete suggestions about metadata documentation that they have already begun. The Task Force should be sure that representatives of the GISSC should be invited to participate, since GIServOhio metadata requirements must be considered.
2. Following review and preparation of documentation, the Task Force Chair should report to the Council on formulated recommendations. All framework data elements should be considered in the standards brought forward.
3. The Council should approve the recommendations following a review of their contents. The Council will determine if particular groups are impacted if and when metadata standards are implemented.
4. OGRIP will publish metadata standards via the listserv (see the Objective on the Communication Program that follows) and solicit comments.
5. Following an appropriate period for review and comment, the Council will take a final vote on metadata standards so they can be officially adopted by OGRIP.

The Metadata Task Force will deliver its draft recommendations by December 15, 2006 (items 1 and 2). Initial Council review will be completed by March 15, 2007. OGRIP will publish the results for general comment by February 1, 2007. Comments received will be noted and Council will make its final vote on the standards by June 1, 2007.

Objective: Expand OGRIP's Communication Program

Communication is one of the four key techniques OGRIP uses to achieve its mission (along with coordination, cooperation, and collaboration). OGRIP needs to continue its good work while expanding communications with collaborating groups. This objective supports all four of the organization's goals.

OGRIP needs to maintain visibility within the many organizations with which it collaborates. OGRIP should remain visible in its programmatic role as the state's primary advocate of vertical integration of spatial data. Specific steps to enhance and enrich the communication process will be undertaken in the near term.

1. The OGRIP web site will be enhanced and brought up to date. GISSC staff will assure that announcements of events are current and that presentations offered on the site are no more than one year old.
2. An effective listserv function should be established as a means of more timely communication with email users. A listserv allows posting of items such as newsletters, announcements, questions, or requests for information by sending a single message to the listserv address for subsequent distribu-

tion to subscribers. While OGRIP currently has software with rudimentary capabilities in this area, a market scan should be made, appropriate software acquired, and interested parties should be asked to opt into the listserv to receive regular communications.

3. A hard copy newsletter that can be produced by GISSC and OGRIP staff will become a regular publication of the organization.
4. OGRIP will continue to connect with similar constituency groups through outreach efforts (conference participation, speaking engagements, etc.) to strengthen the GIS community and GIS coordination in Ohio. To ensure OGRIP's constituents are updated and informed, OGRIP will regularly update organizations and associations such as, Ohio Chapter of Urban Regional Information Systems Association (URISA), Council representative organizations/associations and others (i.e., Ohio Township Association) that potentially could benefit from GIS technology.

GISSC staff will conclude web site updates and modifications by December 31, 2006. Software selection and implementation of listserv software will complete by January 15, 2007. Hard copy newsletter production will occur prior to the end of the first quarter of 2007 and a continuing publishing schedule will be determined at that time. Continuing performance compliance will be noted in yearly reporting.

Objective: Establish and Promote the Ohio Cooperative Information Agreements (OCIA)

In support of OGRIP's first three goals, the OCIA[7] program will function as the organizational environment within which data sharing will occur. OCIA activities will include developing partnership agreements with counties, regional groups, state agencies, and others to memorialize commitments to make spatial data available to the community of GIS users through the nexus of GIServOhio.

The partnership program will promote and shape framework data development, define the roles and responsibilities of participants, and create explicit organizational and institutional understandings. OCIA will stress voluntary assent by its partners to share data that is timely, complete, and in formats that are agreed upon through consensus. This program will embody the notion of Vertical Integration.

OCIA is the rubric under which the programmatic elements of Ohio data sharing will fall. As such, it must anticipate the many possible points of view held by spatial data custodians and publishers from around the State of Ohio. In addition, OCIA must reflect trends in inter-governmental data sharing, including a preference by the federal government toward placing spatial data within the public domain.

The OGRIP Council should be actively involved in creating all OCIA understandings. The following tasks assume that OGRIP/GISSC staff members will prepare partnering agreements and textual materials for review by the Council, and that the Council members, in turn, will offer comments, suggestions, and guidance as the basic language is modified.

OCIA development will include two phases. In the first phase, GISSC staff collected input from attendees at the 2005 Ohio GIS Conference on desired parameters, values, and understandings that will be memorialized in the OCIA agreement. OCIA partnering language was then developed by staff in preparation for submission to the Council for consensus. It may be determined that additional outreach meetings should be planned to secure endorsements by such organizations as the CEAO and CAAO. Second phase activities will include preparation of an Implementation Outline which will address the means and methods of publishing the data sharing agreement as well as follow-up actions. OCIA tasks therefore include:

1. Based on input received, and as a result of any follow-up polling of potential participants that may occur via email or telephone, GISSC staff will prepare a draft OCIA Partnership agreement for review by the OGRIP Council
2. Council will convene via (1) email, (2) teleconference, or (3) face to face meeting to review

[7]The term OCIA was adopted for use in this plan. The Council may choose to create a different name for the partnership program at some time in the future.

the contents of the initial draft. An iterative process will occur until the Council approves a version of the agreement via consensus
3. Council will determine whether outreach meetings should be scheduled after it has completed its deliberations on the agreement
4. [Phase 2] GISSC staff will create a draft Implementation Outline for review by the Council. This document may be prepared during the timeframe within which the Council is working on the draft agreement language, but its timeline cannot presently be anticipated.

Performance indicators for this series of activities anticipate that a draft Partnership Agreement will be transmitted to the Council by November 15, 2006 (and should close items 1 and 2). Review of the draft will occur by December 31, 2006. The target date for reaching consensus on agreement contents is January 31, 2007. Outreach opportunities, as determined by the Council, will be scheduled as soon as possible. Those dates may drive others contained in the Implementation Outline. Longer range performance indicators include participation (signed OCIA agreement) by 25% of the state's counties every two years, with 50% total by December 31, 2008.

Objective: Enhance GIServOhio

The functions of GIServOhio include data discovery, data provisioning, providing Open GIS Consortium (OGC) web services, geocoding, and support to state agencies. As the designated spatial data "clearinghouse" for the State of Ohio, GIServOhio is the virtual signpost to key data sets from both state-level and local governments.

The data portal needs to be enhanced to better serve the needs of the GIS user community and to continue to support OGRIP's goals, including the ability to know what data is available, to easily access the data, and then make informed use of the information. GISSC staff will need to assume a more active day-to-day role in operations and maintenance duties as data contributions rise and further metadata is published.

Staff supporting GIServOhio will be asked to review submittals for inclusion in the metadata catalog. For this reason, OGRIP and GISSC should be well-represented on each of the Task Forces that will be suggesting policies and standards. As GIServOhio is implemented further, the quality and value of the site will rise in direct ratio to the quality of the metadata submitted. In addition to participating with all Task Forces, GISSC staff will be performing the following activities:

1. Hardware and software will be acquired to meet demand as needed. Performance of the web site will be monitored to assure that throughput is not diminished because of conditions that could be remedied by adding additional computing capacity
2. The portal will provide support to state agencies as needed. This means (among other things) that GISSC will add data publishing to its list of services so that agency geoprocessing will successfully satisfy business needs
3. GIServOhio staff will also provide some measure of support services to local governments. These services may take the form of data publishing, data delivery, or metadata creation in special circumstances.

Performance indicators for these tasks will be tied to user satisfaction, rather than calendar dates. Each quarter, a status report should be written to the Council tracking opportunities and challenges for GIServOhio.

Objective: Enhance the level of professional capabilities for GIS practitioners in Ohio

The fourth OGRIP goal focuses on "informed use" of data. This objective speaks to that goal by providing a number of educational and professional activities that should make GIS practitioners more aware of "best practices." In turn, more informed use of data will result.

Tasks under this objective include:

1. Sponsor and promote continuing education efforts for GIS practitioners—collaborate with educational institutions to develop curricula of value to GIS practitioners in public and private sector organizations through Forum outreach
2. Promote continuing education opportunities at yearly conferences—solicit seminars and workshops that can be given in conjunction with the Ohio GIS and Land Records Modernization conferences
3. Cooperate with GIS certification groups—support voluntary certification by GIS practitioners through organized groups that have standing in the GIS industry.

Performance indicators for item 1 will include receiving Forum input on continuing educations needs and opportunities by March 15, 2007. By the third quarter of 2007, be prepared to sponsor at least one workshop/seminar during the 2006 Ohio GIS Conference (item 2). Review existing certification programs and prepare an appropriate endorsement for Council approval no later than March 15, 2007 (item 3).

Appendices

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