



Date: June 20, 2001

To: Inter-Regional Partnership Members

From: Staff

RE: Integrated Geographic Information Systems Update

Background

Since the last Inter-Regional Partnership (IRP) meeting, staff has conducted a needs evaluation survey for hardware and training needs of IRP staff, has been acquiring data to build into the integrated Geographic Information System (GIS), and has continued researching an expanded GIS for the IRP.

Discussion

Needs Assessment

In May staff sent out a Needs Assessment survey to evaluate the hardware and training needs of the three Council of Governments (COGs) (Attachment A).

The hardware needs section of the survey evaluated the existing hardware and software capabilities at each COG. This information will be used to guide purchasing decisions needed to ensure that all three COGs have the necessary equipment to utilize and update the integrated GIS.

The training needs section of the survey evaluated staff capabilities at each COG to perform the tasks necessary to utilize and maintain the GIS. Since each COG needs to have at least one staff member who is capable of performing the variety of tasks involved in using the GIS, staff is in the process of scheduling training sessions to address the needs identified in the survey. The training sessions will occur at either the end of June or the middle of July.

Data Acquisition

Since the last IRP meeting, staff has been able to collect most of the required data layers. The geographic, transportation and environmental layers required for the GIS have been collected. The most important layers that still need to be acquired are the demographic data, including population, housing and employment.

Staff is in the process of assembling an existing land use coverage layer for the five county region which should be complete in September 2001.

Expanded GIS Program

Staff is continuing to research the possibility of building an "expanded" GIS for the IRP. Staff has identified a number of layers that could be used to expand the capabilities of the integrated GIS. The list of potential layers for an expanded GIS include water service, sewer service, agriculture contract lands, soil data, planned expansion of freeways/major roads, fire protection services, and California Dept. of Toxic Substances Control/Environmental Protection Agency designated brownfields to name a few.

Staff is currently in the process of evaluating the availability of the expanded layers and will have an estimated budget of how much an expanded GIS will cost to build. This estimated budget will be presented at the next meeting of the IRP.

Requested Action

This is an informational presentation, no actions are requested.

ASSOCIATION OF BAY AREA GOVERNMENTS

Representing City and County Governments of the San Francisco Bay Area



Date: May 14, 2001

To: Julia E. Greene, Executive Director
San Joaquin Council of Governments

Gary Dickson, Executive Director
Stanislaus Council of Governments

From: Christy Riviere, Regional Planner
Association of Bay Area Governments

RE: Integrated Geographic Information System Needs Analysis

cc: Eugene Leong, ABAG
Alex Amoroso, ABAG
Paul Fassinger, ABAG
Steve Vandenburg, SJCOG

State legislation requires the IRP to develop an integrated GIS for the IRP State Pilot Program that includes demographic data, transportation and land use information, and basic environmental data. The legislation also mandates that the integrated GIS be an integral part of the jobs/housing opportunity site selection process. To further these goals, we have compiled a “needs assessment.”

The purpose of the Needs Assessment is to ascertain GIS equipment and training needs, to determine remaining data needs and to define GIS data standards. Details regarding each section of the Needs Assessment are given below.

Hardware/Software Configuration Requirements

In order to use GIS to perform the state required analysis of proposed jobs/housing opportunity sites and to utilize the final product, each agency will need to have particular hardware and software configurations. Section I of the Needs Analysis details those requirements. In this section, please indicate whether or not you have the specified hardware and software. Responses to this section will inform recommendations for hardware and software purchases.

Training Needs

In addition to basic hardware and software requirements, at least one staff member at each agency needs to be skilled in using GIS. Section II of the Needs Assessment details the minimum skill requirements that will be necessary to perform GIS mapping functions and analysis for the IRP State Pilot Program. Please indicate whether or not an IRP designated staff person has experience in performing each task listed. Responses to this section will be used to determine the focus of the training classes to be provided for IRP staff. ABAG is planning to schedule and provide GIS training classes in the next few months and will be in contact with further details, as they become available.

GIS Data Collection

Our staff has begun organizing and collecting the required GIS data layers for the IRP. The collection of these GIS data sets has been proceeding smoothly, however there are several required data sets that have yet to be collected. We have taken on the responsibility of collecting data that is available from private, federal or state agencies. It is the responsibility of each COG, however, to collect data that is available at the county level, i.e. general plan, zoning, and demographic data.

Table 1 of Section III of the Needs Assessment contains a refined list of the required data that was included in the *Integrated Geographic Information System Program Proposal* dated March 27, 2001. These data sets will be used to perform the GIS analysis of the jobs/housing opportunity sites. The data in Table 1 is listed as either “collected” or “uncollected”. Uncollected data that is available from county agencies (and therefore require your assistance in collecting) include multi-modal transit routes (bus routes that go through a multi-modal stations), demographic data, general plan and zoning. It is recommended that each COG work with the agencies in its region (county departments, transportation agencies, etc.) to determine the availability of and to collect these data sets. ABAG staff will work with the contact person designated by each COG to complete this process.

Data Standards

Once all of the data identified for use in the integrated GIS are collected, ABAG staff will organize and format the data to conform to a database and mapping standard that can be used by each COG to conduct the required analytical work. These standards are meant to ensure the compatibility of data sets being used in the GIS analysis or the jobs/housing opportunity zones by each COG. Section IV details the database standards that will be used in terms of data projection and file directory structure.

Please complete the information requested in Sections I and II of the Needs Assessment, and return to ABAG by May 21, 2001. Responses can be faxed to 510/464-7970. If you have any questions or concerns, please contact me at 510/464-7923 or email at Christyr@abag.ca.gov.

IRP Integrated Geographic Information Systems (GIS) Needs Assessment

Please fill out the contact information below. The person identified below will serve as the principle IRP GIS contact for your agency.

Contact Name: _____
 Title: _____
 Organization: _____
 Address: _____
 City: _____
 Zip Code: _____
 Phone: _____
 Fax: _____
 E-mail: _____

I. Hardware/ Software Configuration Requirements

The following list identifies the minimum hardware and software requirements for the Integrated GIS Analysis and Mapping efforts of the IRP Pilot Project. Please indicate whether your agency meets or exceeds the requirements listed.

*Please Check
Appropriate box*

Hardware Requirements:	Meet or Exceed	
	Yes	No
500mghz PC w/ 128 meg ram (1000mghz PC w/ 512 meg ram for optimum performance)		
30 gig 7200 rpm hard drive w/ 12 gig free space for IRP database storage		
17 inch SVGA monitor (19 inch SVGA monitor for optimum performance)		
16 meg video card (32 meg video card for optimum performance)		
Compact Disk Read/Write Drive (CDRW)		
Color Plotter/ Printer for Output of Maps (Minimum 11X17 size recommended)		
Access to Internet (DSL/ Cable speed or better)		

Please Check
Appropriate box

Software Requirements:	Meet or Exceed	
	Yes	No
Windows 98 OS (Optimal Performance- Windows NT OS)		
ESRI ArcView 3.2 (mapping & analysis tool)		
- ESRI ArcView 3.2 Spatial Analyst Extension		
Database Application (Microsoft Access/ FoxPro)		
Internet Browser (Explorer 5 or greater/ Netscape 4.5 or greater)		

II. GIS Training

Typical GIS mapping and analytical functions that will need to be performed are described below. Experience with each of these functions is necessary to perform the GIS analysis. Please indicate whether someone on your staff (individual assigned to IRP GIS work) has experience with conducting the following functions:

Data Input Requirements	Experience	
	Yes	No
Keyed bulk database entry/ review		
Data Manipulation Requirements		
Data revisions		
Transformation between map projections		
Edge matching of adjoining map layers		
Merging polygons with common attributes		
Computing distance buffers		
Aggregating data within specified parameters		
Merging (Join) data from a variety of digital sources into a common database		
Raster to Vector Conversion (Vice Versa)		
Data Analysis Requirements		
Point, line and polygon overlay analysis		
Analysis of proximity and contiguity		
Spatial data queries		
Digital terrain modeling and analysis		

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Data Presentation Requirements	Experience	
	Yes	No
Display and plot raster and/ or vector data		
Display and plot data at specified scales		
Display and plot digital terrain models		
Convert digital map databases into graphics for use in reports		

ABAG will compile the results of this survey to determine the IRP staff's GIS analysis training needs. ABAG is planning to schedule/ provide GIS training classes in the next few months. These classes will be made available to IRP staff. More information regarding these training classes will be provided at a later time.

III. GIS Data Collection

ABAG staff has begun the process of organizing and collecting the required GIS data layers for the IRP. The collection of these GIS data sets is close to completion. The attached table identifies the current inventory of GIS layers and attribute data that is required by the IRP. Data sets listed as "collected" have already been obtained by ABAG. Data sets listed as "uncollected" need to be acquired by June 30, 2001. Each COG is encouraged to contact your region's county departments and transportation agencies in order to determine whether the "uncollected" data sets are available in a GIS format. ABAG will contact your agency's identified GIS contact to coordinate the collection of those data sets that have not yet been obtained.

IV. Database Standards

ABAG will organize and format the GIS data to conform to a common directory structure and mapping standard in order to ensure cross platform compatibility between each COG's GIS systems. All GIS data stored in the Integrated GIS used by the IRP will conform to the following standard.

GIS Layer Projection

Standard Projection and Datum:

UTM Nad27 Zone 10

Units: Meters

Length: Miles

Area: Acres

Directory Structure

The directory structure will be organized by county, with subgroups organized by data type. Figure 1. illustrates the data structure that will be used.

If you have any questions regarding this Needs Assessment, please contact Christy Riviere via telephone (510) 464-7923 or email: Christyr@abag.ca.gov.

Mail or fax a copy of the completed Needs Assessment to:

Association of Bay Area Governments
Attention: Christy Riviere
P.O. Box 2050
Oakland, CA 94604-2050
Fax: (510) 433-5523

