



**Date:** April 25, 2001

**To:** Inter-Regional Partnership Members

**From:** Staff

**RE:** Integrated Geographic Information Systems Update

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## **Background**

Since the last IRP meeting, staff has developed specific program objectives, a list of end products and on-going services for the integrated GIS component of the State IRP Pilot Project. In addition, staff from each of the COGs has collaborated to determine the availability of data to begin the work of data integration and development. Staff has also defined a GIS budget and has conducted limited research on developing a more expanded GIS.

## **Discussion**

### *GIS Program Objectives*

The specific program objectives of the integrated GIS include:

- To create an integrated GIS that meets the legislative requirements of the IRP State Pilot Project. The State requires that the GIS include:
  - Demographic data, including existing and projected population and employment by census tract
  - Transportation data, including traffic capacity and usage, transit access and usage, and journey-to-work data
  - Land use information, including general plan layers and zoning designations
  - Environmental data, including floodplains, slopes, and contamination
- To utilize the GIS in the jobs/housing opportunity site evaluation and selection process. (Attachment 3 is a work in progress staff proposal about how GIS would be integrated into the site evaluation process.)
- To create a GIS that can be used to visually demonstrate the jobs/housing imbalance in the IRP region.
- To create a visual presentation of both the proposed and selected jobs/housing opportunity zones.
- To promote the coordination of GIS information among the five counties of the IRP for decision making and planning.
- To create a GIS that is reliable and generally available to IRP participants and other users.
- To provide GIS services to the IRP and use the GIS tools to support IRP and jurisdictional goals for the Pilot Project.

### *GIS Products and Ongoing Activities*

The following products and/or services are anticipated at the completion of this project:

- GIS regional data layers as required by the State. (See above and Attachment 1)
- Existing land use data layer. Note: Legislation does not mandate an existing land use layer. However, ABAG is in the process of creating such a layer for other ABAG projects. The addition of this layer goes beyond the minimum requirements of the State. The addition of an Existing Land Use layer begins the process of building an expanded GIS system, as discussed below.)

- Focused GIS information on individual proposed jobs/housing opportunity zones that can be used in the site evaluation and selection process.
- Continued coordination of data from various sources to maintain data's currency and accuracy.
- Hosting GIS Internet site for use in publishing IRP maps.

#### *Expanded GIS Program*

At the last IRP meeting, staff was asked to research the potential components and costs of an expanded GIS, one that goes beyond what is required by the State. In response, staff has researched San Diego Association of Governments' (SANDAG) GIS. SANDAG has been using a GIS for over twenty-five years to assist in its regional and local planning efforts. The COG uses GIS in a wide variety of disciplines, including demography, transportation, transit, land use, environmental, public safety, and public facility siting and management.

Because of the high costs associated with developing GIS data, and the limited funds available, SANDAG has formed successful partnerships to develop and purchase data, and has instituted cooperative data sharing agreements with a number of different federal, state and local agencies. The cost and time to develop the SANDAG GIS, as it exists today, goes well into the multi-millions of dollars and over twenty-five years.

Developing an expanded GIS for the IRP on the scale of SANDAG's can include myriad data, including assessor's parcels, endangered species, habitat, power transmission and production facilities, etc. The components of an expanded GIS would also need to be further defined in terms of the goals of the IRP. Staff requests that the IRP address these issues. This discussion will inform the cost of an expanded GIS and will assist staff in developing a formal proposal to State Legislators to cover such costs.

#### *Budget*

The total budget for the Integrated GIS project is \$312,500. This amount includes the \$250,00 in the Scope of Work and Budget approved by the IRP in September 2000 plus the State required 25% match. Funds have been allocated to tasks based upon anticipated needs and distributed to each COG based upon their previously agreed upon proportional representation. Consultant fees are to be paid from ABAG's allocation. Attachment 2 details the cost estimates by task and organization receiving the funds.

#### **Requested Action**

Staff requests that the IRP approve the components of the integrated GIS as presented in this report. Staff requests the IRP discuss the desired components of an expanded GIS and direct staff on how to proceed.

**ATTACHMENT 1. State Required Regional Data Layers**

<b>GIS DATA LAYERS</b>
<b>Basic Geography</b>
Census Tracts
Traffic Analysis Zones (tazs)
Political Boundaries
<b>Demographic Data</b>
2000 Population, Housing Units, Employment by census tract or traffic analysis zone
2025 Population, Housing Units, Employment by census tract or traffic analysis zone
<b>Transportation</b>
Road Centerline (local streets, primary roads, highways, and interstates)
Traffic Capacity (Level of Service)
Usage (Vehicle Miles Traveled)
Transit Routes/Stations
Transit Access (distance to transit)
Transit Ridership
Journey-to-Work
<b>Land Use</b>
General Plan*
Zoning*
<b>Environmental</b>
Floodplains
Slopes
Contamination
Hydrology

\* Due to high costs associated with digitizing general plan and zoning information, this data will be developed for only those jurisdictions where a jobs/housing opportunity zone is proposed. Therefore, this data will be created *after* the RFP deadline.

**ATTACHMENT 2. Cost Estimates by Task and Organization Receiving Funds**

<b>Tasks</b>	<b>ABAG</b>	<b>SJCOG</b>	<b>StanCOG</b>	<b>Req. Match</b>	<b>Consultant (from ABAG funds)</b>	<b>Total</b>
Collecting, Conforming Existing Data	24,000	8,400	8,400	ABAG: 6,000	-	50,000
				Each COG: 2,100		
Data Purchase	12,000	-	-	ABAG: 3,000	-	15,000
Creating Existing Land Use	13,200	-	-	ABAG:5,300	8,000	26,500
Digitizing General Plan/Zoning*	-	-	-	ABAG: 6,000	24,000	31,250
Detailed Zone Analysis	24,800	13,600	13,600	ABAG: 6,200	-	65,000
				Each COG: 3,400		
Equipment & Training	-	20,000	20,000	Each COG: 5,000	-	50,000
GIS Data Analysis	24,000	8,000	8,000	ABAG: 6,000	-	50,000
				Each COG: 2,000		
Administration	20,000	-		ABAG: 5,000	-	25,000
<b>Total</b>	<b>\$ 118,000</b>	<b>\$ 50,000</b>	<b>\$ 50,000</b>	<b>\$ 62,500</b>	<b>\$ 32,000</b>	<b>\$ 312,500</b>

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### ATTACHMENT 3: Integration of GIS Analysis into RFP Performance Evaluations

Evaluation Criteria (as defined in draft Jobs/Housing Opportunity Zone RFP)

- a. Zone Characteristics [15 points]
- b. Existing Jobs/Housing Imbalance [15 points]
- c. Jobs/Housing Impact [10 points]
- d. Development Proposal (including infrastructure and transit) [10 points]
- e. Local Incentives [10 points]
- f. Existing Commitments [5 points]
- g. Experience in Administering and/or Implementing Similar Programs [5 points]

Evaluation Criteria	GIS Layer	Measurement
<b>Zone Characteristics</b>	Existing Land Use	(a) 50% or greater of land area is “underutilized” (b) 50% or greater of land area is vacant (c) Land area in and surrounding proposed zone is “urbanized”
	General Plan	Proposed development project in jobs/housing opportunity zone is consistent with jurisdiction’s General Plan
	Zoning	Proposed development project in jobs/housing opportunity zone is consistent with jurisdiction’s zoning
	Flood Plains	No portion of the proposed zone lies in a designated flood plain (as determined by FEMA).
	Slopes	Proposed zone does not contain any slopes equal to or greater than 15%.
	Contamination	Proposed zone does not contain any soil or other environmental contamination.
<b>Existing J/H Imbalance</b>	Demographic Data	(a) Jobs/Housing ratio is $\Rightarrow$ 1.5 (b) Jobs/Employed Residents ratio is $\Rightarrow$ 1
	Existing Journey-to-Work	Existing journey to work in census tract where proposed zone is located is $\Rightarrow$ mean jtw of jurisdiction and/or county of proposed zone
	Traffic Capacity	Existing LOS $\Rightarrow$ C on major arterials and collectors (during peak commute times)
	Existing Highway Usage	Existing LOS $\Rightarrow$ C on interchanges, highways and interstates (during peak commute times)
<b>Jobs/Housing Impact</b>	Projected Journey-to-Work*	Projected journey to work in census tract where proposed zone is located is $\leq$ mean jtw of jurisdiction and/or county of proposed zone
	Projected Highway Usage*	Projected LOS $\leq$ B on interchanges, highways and interstates (during peak commute times and after project completion)
	Location of Proposed Zone	
<b>Development Proposal (incl. infrastructure and transit)</b>	Traffic Capacity	Development will not contribute to creating an LOS $\leq$ B on major arterials and collectors (during peak commute times) or Capital improvements in zone will bring the LOS on major arterials and collectors to a LOS of B or greater.
	Existing and Projected Highway Usage	
	Transit Access	

	Projected Transit Ridership	
<b>Local Incentives</b>	No GIS Analysis	NA
<b>Existing Commitments</b>	No GIS Analysis	NA
<b>Previous Experience</b>	No GIS Analysis	NA

\* As available