



Memorandum

TO: HONORABLE MAYOR AND
CITY COUNCIL

FROM: Randall Murphy
Larry Lisenbee

SUBJECT: GEOGRAPHIC INFORMATION
SYSTEMS

DATE: April 17, 2006

Approved

Deanna Patna

Date

4/28/06

RECOMMENDATION

It is recommended that the City Council adopt the following appropriation ordinance amendments in the General Fund:

1. Eliminate the Geographic Information Systems Reserve in the amount of \$184,725;
2. Increase the Citywide appropriation for Geographic Information System Integration by \$184,725

OUTCOME

To share GIS information within the City of San José and among other regional partners, and allow for the maintenance and coordination of this information in a timely and accurate manner. The reserve funds will be combined with already appropriated funding to purchase the necessary hardware, software and licenses.

BACKGROUND

Geographic Information Systems (GIS) store and process geographic information. Often called "mapping software," GIS links attributes and characteristics of an area to its geographic location. GIS is used in a variety of applications, including dispatching, demographic analysis, and map making. Using satellites and aerial photography, the U.S. Geological Survey and other organizations have developed digital maps of most of the world, and unlike paper maps, digital maps can be combined with layers of information.

Nine City departments and the Redevelopment Agency now use GIS technology to make decisions, share information, or deliver customer service (see Attachment 1). The City of San José also participates in a regional data-sharing agreement with the County of Santa Clara and the San Jose Water District.

ANALYSIS

Funding restrictions and prevailing governance structures have prevented the creation of a centralized GIS data store, resulting in the development of independent data repositories within individual departments. The Enterprise GIS Strategy for the City of San Jose as supported by the Information Technology Planning Board in September 2005 is to establish a centralized GIS infrastructure administered by the Information Technology Department (ITD) with data management responsibilities held by the line departments that are the primary users.

The GIS Advisory Group, comprised of representatives from City departments that now utilize GIS technology, has developed drafts of Citywide and departmental GIS standards. The Advisory Group is also developing hardware and software configurations necessary for a centralized GIS data store and analyzing GIS-related workflow among departments to identify efficiencies and reduce errors.

Next Steps

The proposed purchase of software, hardware and licenses establishes the basis for a GIS core technology infrastructure that will allow City departments to use GIS to share information easily and efficiently. Many of the servers used to house critical GIS data and software are past their acceptable life cycles. Some servers are out of warranty and experiencing hardware failures. The proposed replacement of these aging servers, software and licenses merges two different technological platforms now utilized by the Public Works and Planning, Building and Code Enforcement Departments to provide the basis for Citywide access to a single, comprehensive GIS database.

Once this basic infrastructure is established, the GIS Advisory Group, in conjunction with the Information Technology Planning Board, must outline a Strategic Plan for Citywide Geographic Information Systems implementation. As reported to Making Government Work Better on April 20, 2006, a consultant should be hired to update business requirements, evaluate implementation efforts to date and recommend improvements.

PUBLIC OUTREACH

Not Applicable

COORDINATION

This memo has been coordinated with the Planning, Building and Code Enforcement, Public Works, Transportation, Airport, Police, Fire, Environmental Services, Parks and Recreation, and General Services Departments.

April 17, 2006

Subject: Geographic Information Systems

Page 3

COST IMPLICATIONS

In FY 2001-02, the GIS Reserve was appropriated to set aside funding to address end-user needs as recommended by ITD. These funds will be combined with already appropriated funding to purchase these specific items:

- 2 UNIX servers (\$90,000);
- Oracle Server Licenses (\$100,000);
- GIS software to ensure layer alignment accuracy (\$40,000);
- Mailing Address Verification Software (\$5,000);
- Professional Services programming interfaces (\$34,000);
- Contingency (\$30,000).

BUDGET REFERENCE

Fund #	Appn. #	Appn. Name	Total Appn.	Amt. for Project	2005-2006 Adopted Operating Budget
001	7687	Geographic Information Systems Reserve	\$184,725	\$184,725	Page IX-26
001	3140	Geographic Information System Integration	\$115,272	\$115,272	Page IX-13

CEQA

Not a project.


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ATTACHMENT 1

Department	GIS Applications
Airport	<ul style="list-style-type: none"> • Asset/inventory management • Facility/property management • Security/emergency response • Airline gate management Design/construction/surveying • Airplane noise levels • Acoustical treatment • Airspace obstructions/height requirements
Planning, Building and Code Enforcement (PBCE)	<ul style="list-style-type: none"> • Map production • Land use analysis • Public noticing • City Council boundaries • General Plan • Zoning • Historic areas • Coyote Greenbelt • Annexations
City Manager	<ul style="list-style-type: none"> • Graphics and presentation maps
Department of Transportation (DOT)	<ul style="list-style-type: none"> • Sewer lines • Storm drains • Streetlights • Traffic and traffic volume • Traffic accidents • Parking citation locations
Environmental Services Department (ESD)	<ul style="list-style-type: none"> • Assist in the operation and maintenance of the Water Pollution Control Plant and Potable and Recycled Water Distribution Systems • Meet requirements of our City's National Pollutant Discharge Elimination System (NPDES) Permit.
Department of Parks, Recreation and Neighborhood Services (PRNS)	<ul style="list-style-type: none"> • Database of parks, trails, and community centers • Provide maps of parks and trails (in print form and over the internet) • Fund distribution from Park Impact and Park Dedication Ordinances • Call box locations (future) • Track pavement conditions and signs for maintenance activities (future)

ATTACHMENT 1 (cont.)

Department	GIS Applications
Public Works	<ul style="list-style-type: none">• Maintain City's base map:<ul style="list-style-type: none">▫ Street centerlines (used in Police and Fire Computer Aided Dispatch (CAD) emergency response)▫ Parcels▫ Rights of way▫ Data "layers" City's Municipal Water System.
Redevelopment	<ul style="list-style-type: none">• Create presentation maps• Analysis for redevelopment areas throughout the City.
Fire Department	<ul style="list-style-type: none">• Computer Aided Dispatch (CAD) emergency response• Fire station locations• Emergency response zones• Mutual aid areas
Police Department	<ul style="list-style-type: none">• Computer Aided Dispatch (CAD) emergency response• Crime analysis• Create and maintain beat boundaries• New map books for patrol officers (future)