



# Memorandum

**TO:** HONORABLE MAYOR AND  
CITY COUNCIL

**FROM:** Randall Murphy  
Larry Lisenbee

**SUBJECT: EARMARKED RESERVE FOR  
TECHNOLOGY**

**DATE:** November 20, 2006

Approved

*Ray Warner*

Date

*11/22/06*

## **RECOMMENDATION**

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

1. Reduce the Earmarked Reserve for Technology in the amount of \$1,500,000;
2. Increase the Information Technology Department (ITD) non-personal appropriation in the amount of \$1,400,000;
3. Increase the Information Technology Department (ITD) personal services appropriation in the amount of \$100,000.

## **OUTCOME**

To release a portion of the Earmarked Reserve for Technology to begin projects toward mitigation of several significant security and service risks in technology that have resulted from technical infrastructure expansion and growth in volume as well as complexity of software applications.

## **EXECUTIVE SUMMARY**

The purpose of this memorandum is to (1) recommend a reduction in the appropriation earmarked for technology reserves and (2) increase the Information Technology Department's non-personal and personal appropriations. This memo further identifies four key areas of Citywide critical technology needs identified by the Chief Information Officer suggested for immediate action.

## **BACKGROUND**

The City has operated under a Council approved technology freeze over the past 3.5 years in response to the economic downturn. As a result, the Information Technology Department has

operated with limited financial and personal resources at a time when the City realized unprecedented growth in large and complex technology projects. With staff concentrated on maintaining and learning new and existing technologies with no designated funding source, the City now finds itself exposed to policy, practice and system vulnerabilities. The establishment of the Technology Reserve was an excellent first step in a comprehensive, systematic approach to addressing technology needs.

**ANALYSIS**

Staff has identified four critical need areas and related projects where efforts should be focused. These are discussed in greater detail below:

*1. Stabilize day-to-day operations (Technical Assistance/Skills Transfer)*

The City is enjoying greater system functionality as a result of very ambitious technological goals. However, this has also created an environment with many simultaneous projects without sufficient resources to complete. Short term tactics need to be initiated in order to ensure that operational issues do not develop into major problems. Several one-time temporary contractual services with no ongoing expense will be employed for specialized technical assistance to work alongside current City staff in order meet implementation deadlines, ensure completion of critical tasks, and provide skills transfer for maintenance of new technologies. The cost of these services in Fiscal Year 2006-2007 is estimated to be approximately \$300,000. Current projects in-progress that will be assisted by these additional contractual services include:

• Active Directory Deployment	10 weeks @ \$5000/week	\$50,000
• Update Enterprise Email Services	8 weeks @ \$4000/week	\$32,000
• Update Firewall/Intrusion Detection	6 weeks @ \$8000/week	\$48,000
• Migrate Access/FoxPro Application	12 weeks @ \$4000/week	\$48,000
• Build Expanded Enterprise Web Platform	8 weeks @ \$5000/week	\$40,000
• Expand Web Development	8 weeks @ \$4000/week	\$32,000
• Integrated Voice Response/Call Pilot	8 weeks @ \$6000/week	\$48,000

In addition, many departments are accessing network services beyond the 8 to 5 workday. Additional coverage to provide 24/7 technical support is required to maintain uninterrupted service for all City departments, but particularly to ensure critical continuous access for Public Safety and the Office of Emergency Services. The requirement will be addressed during this fiscal year with overtime and on-call services as we monitor and reconcile needs with required staff necessary to meet obligations. These resources were previously eliminated in attempts to meet budgetary reductions. The cost of these services in Fiscal Year 2006-2007 is estimated to be approximately \$100,000.

2. Identify and Quantify Exposures (Information Security and Network Architecture Audits)

**Information Security Audit**

Information is an asset which, like other important business assets, has value to San José and consequently needs to be appropriately protected. Information Security is characterized as the preservation of:

- Confidentiality: ensuring that information is accessible only to those authorized to have access
- Integrity: safeguarding the accuracy and completeness of information and processing methods
- Availability: ensuring that authorized users have access to information and associated assets when required.

Dependence on information systems and services means San José is more vulnerable to security threats. The interconnection of public and private networks and shared information resources increases the difficulty of access control. The exponential expansion of computer use for daily performance of duties and responsibilities of most City employees dictates a need for a secure and reliable set of information security practices and processes.

Information security is the critical requirement for the protection of electronic information, and a security audit will validate current practices, identify strengths and weaknesses in the current environment, and provide recommendations for improvement. The deliverables of this project will include:

- Confidential assessment of the current environment
- Assessment risk for critical exposure areas
- Recommendations for improvement

The cost of this one-time contractual service in Fiscal Year 2006-2007 is not to exceed \$200,000.

**Network Architecture Audit**

The City currently has 300 network servers, 20 application servers, 10 database servers, 5000 workstations, 30 network interfaces with external governmental agencies, 10 network interfaces with external business organizations and approximately 1 million transactions processed online per day, with 30 million lines of print produced weekly. The technical network architecture has been built over many years, including the addition of the converged network in City Hall, and spans more than 18 major locations and hundreds of network connections.

With the practice that allows each employee access to the appropriately authorized information in any of several applications from a single workstation, it is required that the network architecture encompass the entire group of staff locations to ensure an adequate

secure environment. A typical employee will access service for one or more unique department applications such as email, internet, geographical information, and possibly finance and/or human resource applications in the course of their job performance.

A network architecture audit is not only critical to the performance of network resources; it is also related to our ability to protect the availability and security of network services. This audit will identify inconsistent and obsolete hardware and software network interfaces that will need to be isolated or replaced in order to limit system downtime.

The deliverables of this project will include:

- Confidential assessment of the current environment
- Risk analysis for areas of improvement
- Validation of future enhancements
- Recommendations for improvement prioritization
- Cost estimates to resolve Level One risks

The cost of this one-time contractual service in Fiscal Year 2006-2007 is not to exceed \$300,000.

3. *Develop a consistent, robust technology foundation (Professional Training for ITD Staff)*

The converged network has proven to be a solid foundation for voice and data needs for the future. One of the highest technology priorities is to extend these capabilities throughout the City organization, with the Public Safety campus targeted as a primary expansion site. Extending service to an additional 1200 employees will require ongoing support for voice and data during both migration and implementation. Information Technology staff will need additional training and experience in advanced services such as site-to-site failover, multi-site provisioning and several departmental application server support functions to respond adequately to this expanded customer base. In addition, it is essential that staff receive additional training to support recently upgraded technologies that resulted from the conversion of antiquated applications, and to enhance support for existing systems such as web development and geographic information systems (GIS). To augment the skills of existing City staff, we anticipate contractual services for education and training for City staff in the amount of approximately \$100,000 for Fiscal Year 2006-2007.

4. *Implement plans that leverage City investments (Citywide Business Requirements/RFP Development/Implementation Plans)*

One of the consequences of aggressive technology growth is that projects and resources often become focused on specific objectives rather than leveraging successes throughout the organization. For this reason, the city must dedicate planning efforts toward improving and documenting current and proposed business requirements for the use of technology. Previous budget cuts, coupled with the need to implement technology improvements to offset those cuts, have resulted in inadequate preparation for major future improvements.

Procurement processes, change orders, implementation plans, and resource commitments are all adversely affected by the lack of proper business requirement definition practice.

Significant resources are duplicated among multiple departments because IT funding and personal services are not coordinated at the business requirement stage of program development. Departmental efforts to implement web services, geographic information systems (GIS) and electronic document management systems (EDMS) are all examples of technologies will provide a much better return on investment if a project to define the business requirements is coordinated with the Information Technology Department. It is critical for the effective use of technology to understand the way work is done in order to form the basis for how we will use technologies. Risk exposures with the CAD implementation and payroll upgrades over the past few years would have been mitigated if business requirements had been better defined.

This Citywide effort would also provide the basis for an RFP for a shared content management system which would establish common tools and data management processes to support shared and common applications such as web services, GIS, and EDMS. This process will extend the benefits of the current Storage Area Network (SAN) project and consolidate data storage facilities to reduce costs and improve performance. Additionally, when considered within the context of the network architecture audit, the ability to standardize and support City technology services will improve reliability and reduce ongoing support costs.

The estimated cost of the Citywide Business Requirements Project and the preparation of an RFP for Content Management Technical Architecture are estimated to be a one time expense of \$500,000 in Fiscal Year 2006-2007. This amount may be supplemented by departmental budget amounts as the scope of work may expand on a departmental basis as the need to include additional business requirements becomes apparent. The study will identify the numerous areas within the City organization where duplication of personal resources, funding and technology needs exist, allowing us to leverage shared solutions and costs.

### **POLICY ALTERNATIVES**

Not applicable.

### **PUBLIC OUTREACH/INTEREST**

This memorandum meets Criterion 1 below and is posted on the City's website for the December 12, 2006 Council Agenda.

- ✓ **Criteria 1:** Requires Council action on the use of public funds equal to \$1 million or greater. **(Required: Website Posting)**
- Criteria 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**

- Criteria 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

### COORDINATION

This memo has been coordinated with the City Manager's Office.

### COST IMPLICATIONS

The establishment of a \$3.5 million reserve to address critical Citywide technology needs was approved as part of the 2006-2007 Adopted Operating Budget. All expenses recommended in this memorandum, with the exception of the 24/7 technical support augmentation are one-time in nature and have no ongoing operating and maintenance costs. The \$100,000 for 24/7 technical support will cover expenses only in 2006-2007. A proposal to fund these expenses on an ongoing basis will be brought forward for Council consideration at a later date.

After the reduction of \$1.5 million for actions recommended in this memorandum, \$2.0 million will be left in the reserve to address future technology needs. It is anticipated that approximately \$1.3 million will be utilized for the Parks, Recreation and Neighborhood Services (PRNS) Online Registration System (RECS). PRNS, ITD and Finance are currently participating in the bid process for this project and a vendor recommendation will be brought forward to Council for action in early 2007. Allocation of the remaining \$700,000 will be based on the highest priority projects and available existing staff necessary for activity coordination. Technology projects based on critical needs were presented to the Making Government Work Better Committee on April 20, 2006; however, since that time, several new areas of urgency have been identified including asset management, WiFi services and other business applications such as Employee Recruitment software, Web Development and pilot projects for Electronic Document Management. Recommendations for appropriation activity and use of the remaining \$2.0 million will be brought forward for Council consideration in the first half of 2007.

### CEQA

Not a project.



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