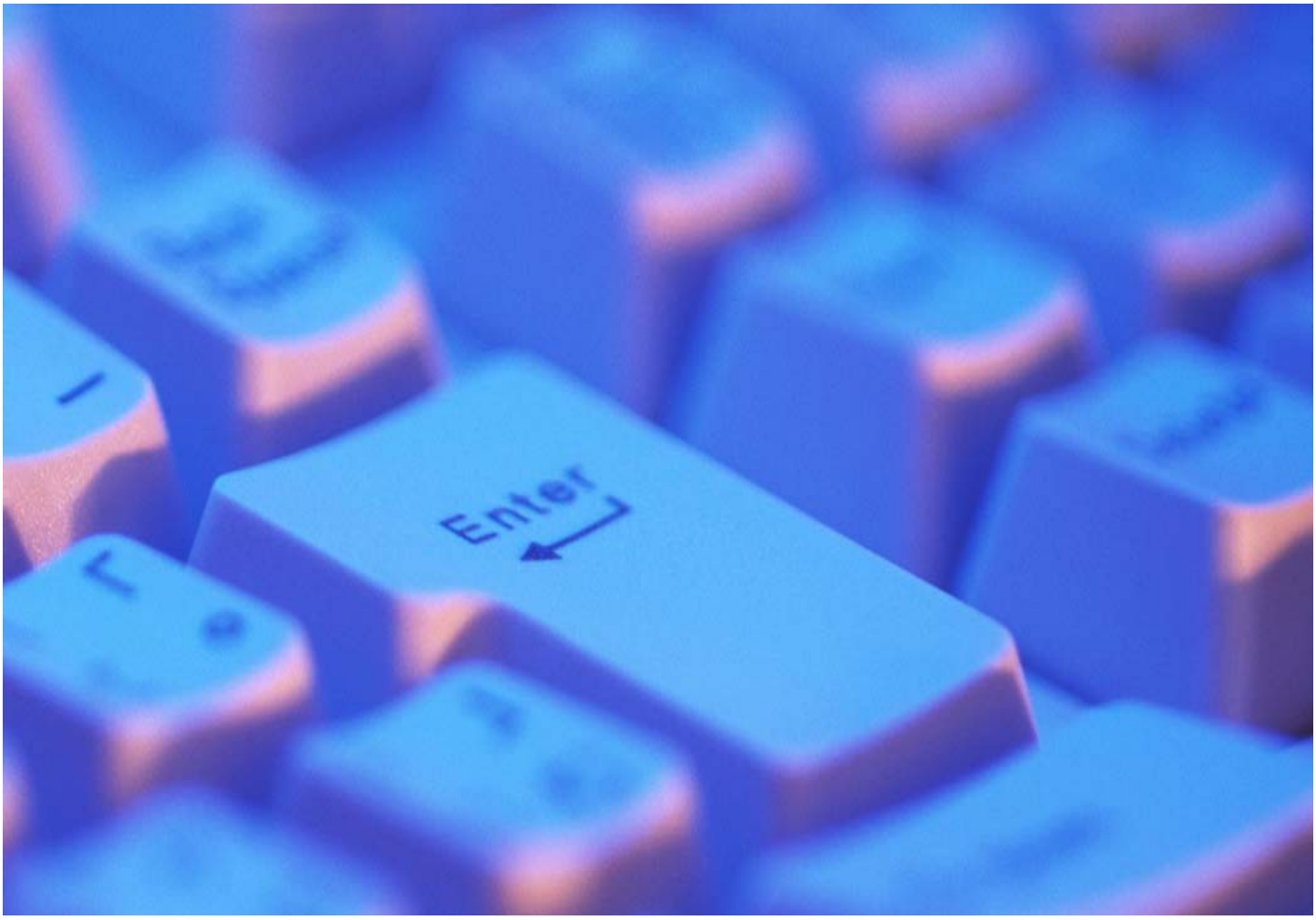

Information Technology Strategic Plan FY10 – FY13

City of San Antonio

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Chief Information Officer

Version 1

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Governments at all levels are under pressure to deliver more for less, whether this pressure comes from Federal or State mandates or citizen needs. In particular, citizens are demanding from government, the service levels, convenience, and quality they have come to expect from the private sector. Considering the challenges that confront City government, information technology (IT) must deliver tangible business value by improving productivity and reducing costs.

This information technology strategic plan (ITSP) presents the "roadmap" for how IT supports the mission and goals of the City of San Antonio (City) as well as enables the City to provide cost-effective services to it residents, businesses, visitors, and employees. The objectives, principles, and direction described in this plan is aimed at helping City leaders, technical staff, business users, vendors, and business partners to plan, implement, and manage value-producing IT for the City.

The IT strategy for the City rests on three pillars:

(1) A digital foundation

(2) A service oriented architecture (SOA)

(3) Strategic partnerships of scale and excellence

First, a digital foundation is the base upon which all other initiatives rest. That is, it is impossible to meet the technology needs of the City – whether telephones, computers, or software programs – without a capable, reliable, and cost effective IT "backbone." This backbone consists of a modern IT architecture of hardware, software, tools, processes, and services. To that end, the City is replacing its legacy devices, systems, and separate networks for one integrated technology infrastructure that meets the collective needs of all City departments and users. It supports information sharing, enhanced security, and ensures redundancy and continuity of network operations.

Second, it is much cheaper and more efficient to "reuse" than "recreate." That is the premise of SOA, whereby the City takes the best software applications that we use every day –whether created by an external service provider or a City developer –and packages them in such a way that lets our customers use them and reuse them. Rather than creating and maintaining custom software, the City is procuring "best of breed" services and solutions, particularly those accessed through the Internet.

Third, in our increasingly interconnected world, it is neither necessary nor desirable for the City to build and maintain every IT solution it uses. Instead, the City focuses on specific services that exploit the economies of scale that a large City like San Antonio possesses and looks elsewhere to procure other needed services. That is, before it decides to build a solution, the City first seeks to borrow, use a broker, or buy an already existing commercial product. The City may be the service provider or the participant in a shared service system. If the City chooses to develop its own solution, it seeks to share technology components common to our business applications, such as SAP's enterprise resource management (ERM) system, customer relationship management (CRM), e-forms, enterprise content management (ECM), and reporting, analytics

and data integration (business intelligence). Either way, the City receives optimal and cost-effective IT services.

On top of these three pillars, the City has created an executive-level Strategic Planning Council (SPC) to govern the selection, prioritization, and funding of IT projects. The SPC is composed of six representatives from various City departments and is chaired by an Assistant City Manager (ACM). The SPC reviews and ranks proposed IT projects according to their recommended priority, estimated cost, and proposed benefits. The SPC forwards its recommendations to the Office of Management and Budget (OMB), the City Executive Leadership Team (ELT), and City Council for final review and approval. These parties approve a final list of projects as part of the annual budget.

Sustainable IT operations require an effective charging method. Starting in FY08, the City implemented a charging method based upon the number of full-time equivalent (FTE) employees in each customer unit. This FTE-based method allocates the cost of IT to a City department based on its share of the total FTEs in all departments. This method distributes the cost of shared IT services and infrastructure in a manner that is transparent and responsive to changing IT needs.

Human capital development and management is the lifeblood of any high-performing organization. The City engaged the services of Gartner, Inc. to help establish new IT job descriptions and create a transition plan to implement them. These job descriptions reflect the work performed and the knowledge, skills, and experience required. They describe what our IT employees do and the subject matter they must master. Additionally, they reflect industry standards and clarify career paths.

The City is defining and implementing an enterprise-wide information security program, based upon NIST (National Institute of Standards and Technology) Special Publication 800-53, to protect City information assets from unauthorized access, use, disclosure, duplication, modification, diversion, or destruction – whether accidental or intentional – in order to maintain their confidentiality, integrity, and availability. This plan is based on which is a risk-based best practices approach to information systems security. The complete Information Security Strategic Plan will be incorporated when available.

Investments and improvements in IT are not an end in themselves. IT must lower the cost of government – to the City and its residents, businesses, visitors, and employees – as well as enable business transformation. Yet, IT can enable substantial business transformation, but it cannot drive it. The focus must remain with business leaders directing the efforts to improve City operations and services. Nevertheless, IT provides an invaluable foundation and capability that enables our business leaders to achieve tangible and significant results.

1 INTRODUCTION

1.1 Background

For years, there has been pressure on governments to deliver more for less. Federal and State mandates add new City responsibilities. City customers – internal and external – increasingly demand the same level of service, convenience, and quality found in the private sector. Our City must use information technology (IT) to improve productivity in service delivery and reduce the cost of government.

1.2 Purpose

The purpose of the City of San Antonio (City) Information Technology Strategic Plan (ITSP) is to describe the "roadmap" being used to implement and deliver IT services that support the strategic mission and goals set by the City and to help the City government provide cost-effective services to it residents, businesses, visitors, and employees. The objectives, principles, and direction in this plan are aimed at improving the management, planning, and implementation of the City's IT initiatives.

1.3 Vision and Goals

The vision for IT use in the City includes:

- The use of enterprise-wide and business-specific technology, as appropriate
- A focus on serving the customer (i.e., residents, businesses, visitors, and employees)
- Cost reduction in business processes
- Business process redesign and reengineering efforts
- Enabling data-driven government
- The collaboration and sharing of IT services and solutions quickly, easily, and appropriately, inside and outside of the City

To support this vision, the City has the following goals for IT:

- Enhance customer service
- Increase community satisfaction and support
- Optimize resources
- Increase efficiency
- Lead effective change management efforts
- Maximize cost/benefit
- Leverage resources
- Improve communication
- Enhance employee productivity
- Increase workforce quality, skills, satisfaction, and loyalty
- Maintain high integrity
- Mange risks and anticipate new threats and opportunities

2 OVERALL INFORMATION TECHNOLOGY STRATEGY

The ITSP has three strategic themes:

- **Digital Foundation** – establish and maintain a modern enterprise infrastructure from which to deploy business solutions that meet organizational needs.
- **Service Oriented Architecture** – establish and maintain a modular technology architecture that allows the City to develop and have flexible IT applications at lower costs delivered at the optimum economies of scale.
- **Strategic Partnerships of Scale and Excellence** – establish relationships with external organizations to promote shared goals and take advantage of economies of scale and centers of excellence.

2.1 Digital Foundation

Deploying a sound digital foundation is a prerequisite for any IT strategy. Historically, much of the City's IT infrastructure was built in department-specific silos. This fragmented structure resulted in costly duplication, unnecessary complexity, an inability to share and collaborate, and an increased vulnerability to security threats. Many of these silo systems have become or are rapidly becoming antiquated legacy systems that are expensive and difficult to maintain. All of these systems have been, are being, or will soon be replaced.

Establishing a digital foundation requires the sharing and reuse of a common, standards-based IT infrastructure. To that end, the City is implementing and sharing common services and leveraging the tools and processes needed to improve integration and interoperability across the enterprise. This first step in improving our IT infrastructure helps to ensure that the City can do a better, more cost-effective job in serving its residents, businesses, visitors, and employees.

IT infrastructure is being upgraded for capacity, reliability, redundancy, and efficiency. This digital foundation allows the City to develop and deploy fully integrated IT systems and services based on industry standards, best practices, and methodologies. For example, telecommunications is one of the most critical technologies used by the City consisting of voice, video, data, and radio, as well as the connections to telecommunications networks and services. To achieve this digital foundation, the City is integrating its telecommunications systems into a unified system based on Internet Protocol (IP) standards.

2.2 Service Oriented Architecture

Service-oriented architecture (SOA) is a widely accepted best practice in the IT industry. SOA is an approach to developing IT applications using independent, reusable modules and services. It seeks to "re-use" rather than "re-create" existing services delivered by third-party service

providers, commercial off-the-shelf (COTS) software, or City systems. When these services are available via intranet or Internet, and constructed using a specified set of standards, they are called "web services." SOA provides interoperability, maintainability, re-use, lower cost, predictability, agility, and enables shared services between and among organizations.

The City either procures or provides IT services and solutions according to the approach that delivers the optimum value to the organization. For example, rather than buying, owning, and maintaining custom applications, the City is seeking solutions such as Software as a Service (SaaS) and cloud computing. SaaS is a term given to software applications accessed by users through the Internet rather than on local servers or personal computers (PC). One advantage of SaaS is lower ongoing support costs and risk. Cloud computing includes SaaS and also offers a shared and distributed global computing infrastructure. Cloud computing allows entities to source their computing infrastructure, pay for only what they use, and use it dynamically to handle peaks and valleys in demand.

The City leverages the expertise of providers by procuring "best of breed" services and solutions. Special emphasis is placed on services that support common business processes and encourage creative approaches to meeting our business needs. This means that IT services are based on open standards in order to make integration with other products easier and less expensive. One significant benefit to the City with this approach is that IT personnel who were previously creating and maintaining these services are re-focusing on integrating commercial products and tailoring them to our needs.

2.3 Strategic Partnerships of Scale and Excellence

Rather than build in-house IT solutions, the City is broadening its service delivery approaches. In priority order, the City will:

1. **Borrow** as much as possible from similar organizations that provide a service or solution well, or from a different industry that performs a similar service or solution, or
2. Use a **Broker** that meets the needs of the City or be a broker and provide the service to others if the City is the best provider, or
3. **Buy** a cost-effective COTS solution that meets the business need of the City, or
4. **Build** a custom solution as a means of last resort.

Fortunately, in an increasingly interconnected world, it is not necessary for the City to be the sole provider of IT services. Advances in cloud computing, SOA, and SaaS allow the City to procure IT services from a variety of providers that offer opportunities of scale and excellence. Rather than struggle to keep up with rapidly changing technologies and business needs, the City focuses on specific services that exploit the economies of scale that a large City like San Antonio possesses and looks elsewhere to procure other needed services. That is, the City will either be a

center of scale and excellence in the provision of a particular IT service or it will buy from one that is. By seeking strategic partnerships with alternative providers who are large enough to achieve the economies of scale similar to the City, we are able to shift costs and the risk of obsolescence to a larger pool.

Strategic partnerships of scale and excellence focus on identifying collaboration and teamwork opportunities and promoting the sharing of services and data across government agencies. In these strategic partnerships, the City serves as either the service provider or the participant in a shared service system. To be considered, a strategic partner's vision must all align with our strategic plans. The partner must be able to solve our immediate business needs and demonstrate the potential to address our long-term goals. The partner must demonstrate a track record of a quality customer service and customer satisfaction and possess financial stability, technical expertise, and a commitment to the success of the partnership. This means that the partner must be committed to ongoing improvements to its services and solutions.

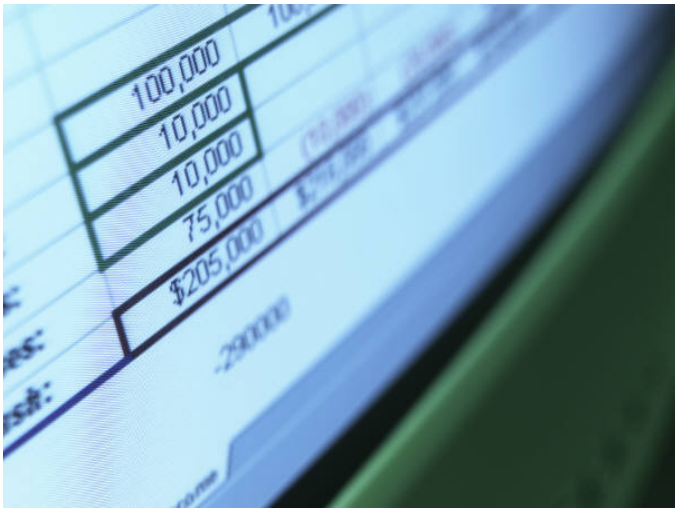
For example, the City is working with the Bexar County Sheriff, Bexar Metro 911, and the City of Schertz to deliver public safety services and formed a regional public safety services organization (Alamo Region Public Safety System) to govern and mange the shared service. In this instance, the region is taking advantage of the City's scale to act as the provider of public safety services. This regional public safety partnership allows the participants to provide and receive excellent services in a highly efficient manner, achieve economies of scale through the shared use of consolidated IT investments, and to facilitate the exchange of information. The four agencies listed above have initiated this partnership, but these services are available to all entities in the Alamo Council of Governments region and beyond.

The City is also pursuing a partnership with Bexar County Integrated Justice System (BCIJS). In this example, the City is a participant leveraging the scale and expertise of Bexar County to deliver criminal justice services through a shared technology service. Like the Alamo Region Public Safety System, the BCIJS shared service will be a model for providing court case management services to other jurisdictions in the region. Currently, the City has pledged to utilize the County's Enterprise Master Name Index (EMNI). Additionally, the City has reserved the option to utilize three other BCJIS services:

- Court Case and Court Financial Management System
- Consolidated Magistration System
- Consolidated District and City Attorney System

3 APPLICATIONS AND DATA

3.1 Introduction



An "application" is defined as any program that provides specific support functions directly for business use, or, in some cases, for another application. The applications used to deliver City services enable the organization to meet its mission.

"Data" may be defined as information processed or stored by a computer. This information may be in the form of text documents, images, audio clips, software programs, or other types of data. Computer data may be processed by the computer's CPU and stored in files and folders on the computer's hard disk. Data can be "structured," meaning it is organized in a database and managed by business software. It can also be "unstructured," existing as files and documents. The latter is managed by the City's Enterprise Content Management (ECM) system.

Applications are interconnected with the data they contain and process. To achieve the goals defined in this plan, the City is viewing data as its most valuable asset and getting control over how they are organized and exchanged. Specifically, the City is implementing a standards-based data architecture that increases the ease with which data from one City "silo" is combined with data from other systems, organizations, or agencies.

Many systems, public and private, hold data that government requires for permits and other regulation. Usually, these data are transmitted to government in various forms and formats, which must be entered, often manually, into the necessary government databases. The "direct data transfer" strategy is designed to transfer needed data directly and automatically into our systems, without the need for manual intervention. That is, direct data transfer enables these public and private entities to submit data to the City without using a printed form. The City is developing data standards for its transactions and forms and documenting the business rules and processes for each. By working with the owners of the data and their software service providers, the City can receive the data it needs automatically and without the need of manual intervention.

3.2 Strategy

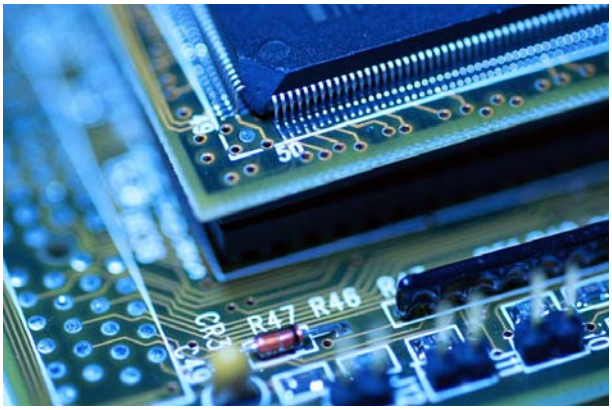
Opportunities exist to share technology components common to our business applications, such as SAP's enterprise resource management (ERM) system, customer relationship management (CRM), e-forms, ECM, and reporting, analytics and data integration (business intelligence). By developing, managing, and operating common enterprise-wide applications, the City is positioning itself to increase its focus on core missions as well as new duties and responsibilities. IT applications focus on the following key areas:

1. **Efficient and Effective Service Delivery** – identifying opportunities to leverage commonalities and deploy common business applications and standard tool sets. Eliminate duplicative components with collaborative solutions to reduce costs.
2. **Customer Self-Service** – embracing the same e-practices available in the commercial sector and make it possible for customers to serve themselves when and how they wish. In expanding the service options provided to citizens, businesses, organizations and other government agencies, these services are made easier to use and more cost-effective.
3. **Direct Data Transfer and E-Forms** – reduce redundant submissions of data by residents and businesses by implementing data reuse, pre-population, and direct data transfer processes from systems of record more widely across the City.
4. **Secure, Trusted, and Reliable Applications** – ensuring that all City information assets are protected from unauthorized access, use, disclosure, duplication, modification, diversion, or destruction – whether accidental or intentional – in order to maintain their confidentiality, integrity, and availability.

4 INFRASTRUCTURE

4.1 Introduction

IT infrastructure is a broad term that includes equipment, networks, and general-purpose software. Specifically, infrastructure represents layers of services, physical products, and telecommunications technologies. These layers provide a foundation for building systems and sharing information. Core infrastructure elements include end-user devices, servers, networks, and other items. If it is working properly, it is largely invisible to the user.



4.2 Strategy

Historically, the City's infrastructure was fragmented and outdated. It was an amalgamation of infrastructures designed, developed, and maintained to meet the specific needs of individual components. This situation introduced an unsustainable level of complexity, cost, and risk to the City and created technical barriers to information sharing.

To achieve the digital foundation, the City is replacing its legacy devices, systems, and separate networks for one integrated technology infrastructure that meets the collective needs of all City departments and users. It supports information sharing, enhanced security, and ensures redundancy and continuity of network operations. The City has established a disaster recovery and business continuity facility at the Emergency Operations Center (EOC) at Brooks City Base. In addition, the City is implementing a plan to replace PCs an average of every four years and use both PCs and Macs.

IT infrastructure focuses on the following key areas:

1. **System Availability** – establishing a readily available computing environment for City employees, business partners, and the public at large who need access to City systems and information.
2. **Shared Services** – providing effective access to City systems and information by reducing overall costs and increasing effectiveness. For example, costs are being lowered by reducing the number of servers through virtualization and by reducing operational costs for monitoring and maintaining these systems.
3. **Network Convergence** – completing the implementation of a networking environment where voice, video, data, and radio transmissions are integrated within a single, unified system based on IP standards. This network convergence enables the City to use services like IP telephony (also called Voice-over-IP, or VoIP), unified messaging (voice and e-mail), video-conferencing, wireless communications, and a host of other applications that seamlessly integrate voice, video, data, and radio communications.

5 IT GOVERNANCE

5.1 Introduction

IT governance defines how decisions are made concerning technology prioritization, selection, funding, planning, implementation, and management. IT governance determines:

- What decisions must be made to ensure effective management and use of IT
- Who should make these decisions
- How will these decisions be made and monitored

The IT governance process provides the means by which the City manages the competing and contradictory demands it receives for IT products and services.

5.2 Governance Process

The Strategic Planning Council (SPC) is the central organization in the IT governance process. It is composed of six representatives from various City departments and is chaired by an Assistant City Manager (ACM). The Chief Information Officer (CIO) sits on the Council as a non-voting, *ex officio* member.

Figure 1. IT Governance Process

The SPC executes its activities within the structure of the IT portfolio management process. The IT portfolio is a collection of projects that are consolidated into a single view based upon their

business necessity, business value (benefits and return), and risk. The IT portfolio management process allows the City to plan, select, and control its IT investments, and then to evaluate their results.

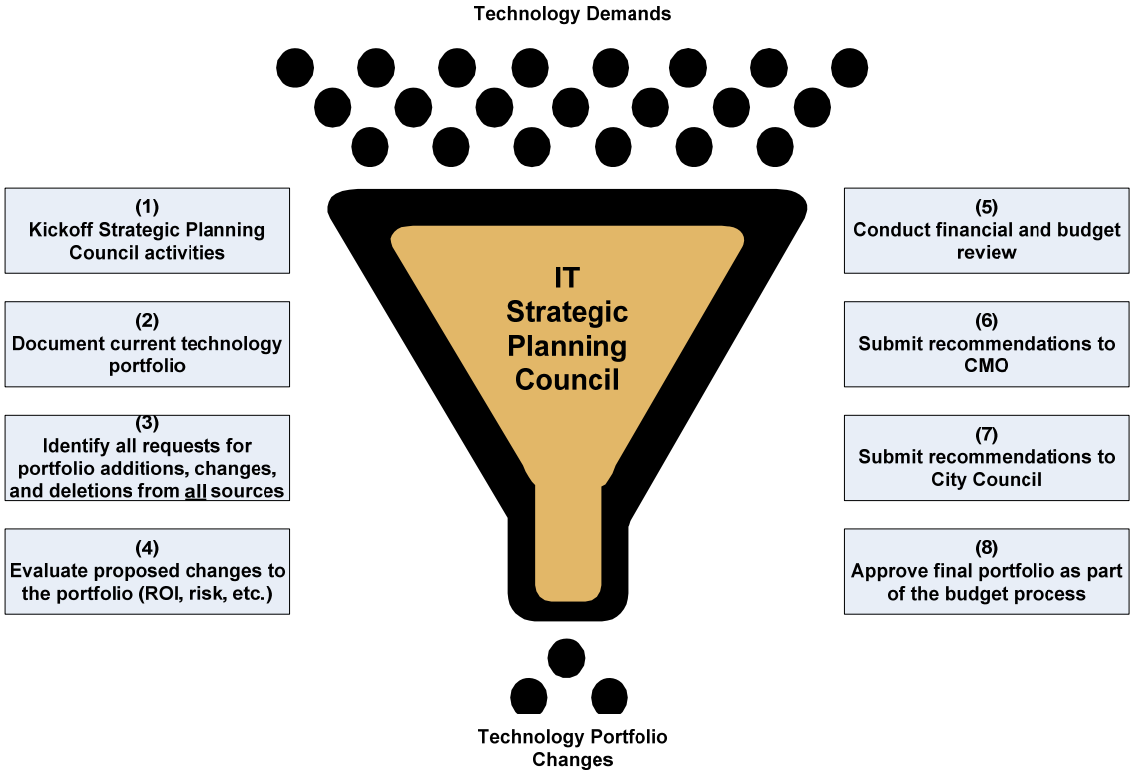


Figure 2. IT Portfolio Management Process

Each year, City departments submit IT project requests as part of the annual budget cycle. Requests for less than $50,000 are reviewed and managed by the executives of the Information Technology Services Department (ITSD). Requests for $50,000 or greater are reviewed by the SPC. The SPC receives input from several sources, such as the City Council and Executive Leadership Team (ELT), the Chief Technology Officer (CTO), and from other City Departments, in order to help it consider whether to recommend a project for funding and implementation.

Following its review, the SPC ranks the proposed projects according to their recommended priority and estimated cost. The SPC forwards its recommendations to the Office of Management and Budget (OMB), the City ELT, and City Council for final review and approval. These parties approve a final list of projects as part of the annual budget.

The ITSD Project Management Office (PMO) oversees and administers all approved IT projects. The PMO's goal is to deliver at least 80% of all approved IT projects successfully based upon the project standards established by the City. As the PMO and client departments continuously improve their project management skills and tools, this percentage will be moved higher.

5.3 Benefits

By incorporating an IT portfolio process within the IT governance structure, the City secures benefits through a common format, common understanding, and common controls for IT projects and services.

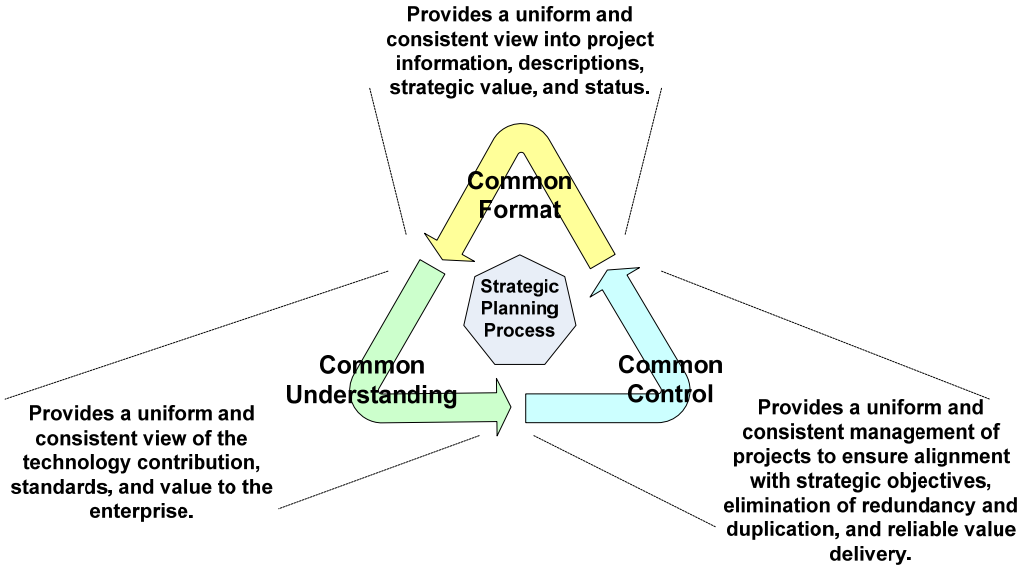


Figure 3. IT Strategic Cycle

By treating IT projects as investments, the City achieves tangible and measurable returns for its residents, businesses, visitors, and employees.

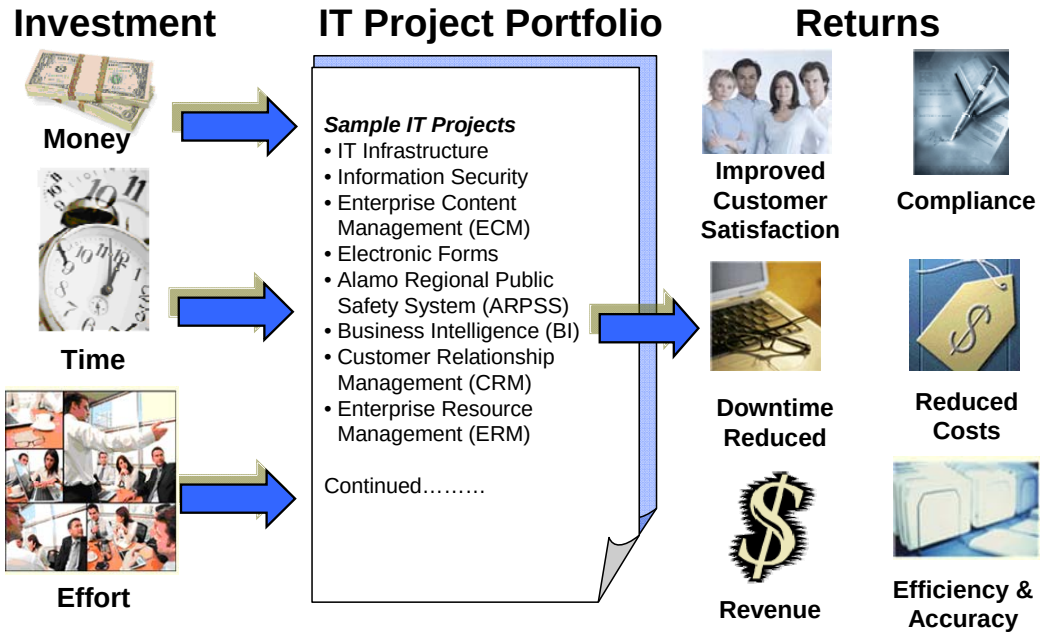


Figure 4. IT Portfolio Returns

6 IT SERVICE PORTFOLIO

6.1 Introduction

The IT strategy is designed to align IT services with City business needs. To help achieve this alignment, the City defines and documents its IT services, along with its associated business value, in a service portfolio.

The IT Infrastructure Library (ITIL), version 3, defines a service portfolio as "the complete set of services that are managed by a service provider."[1] It is "the most critical management system used to support all processes and describes a provider's services in terms of business value."[2] A service portfolio either clarifies or helps to clarify the following strategic questions:

1. Why should a customer pay for these services?
2. Why should a customer get these services from you?
3. What are the pricing or chargeback models for these services?
4. What are the strengths and weaknesses, priorities and risk?
5. How should the resources and capabilities be allocated?

The City has implemented a service structure for its IT services that consistently meets industry accepted benchmarked standards. ITSD's performance goal is to deliver 80% of all cataloged services at or above the service level objectives defined in the portfolio and achieve a 90% customer satisfaction level with the delivery of IT services.

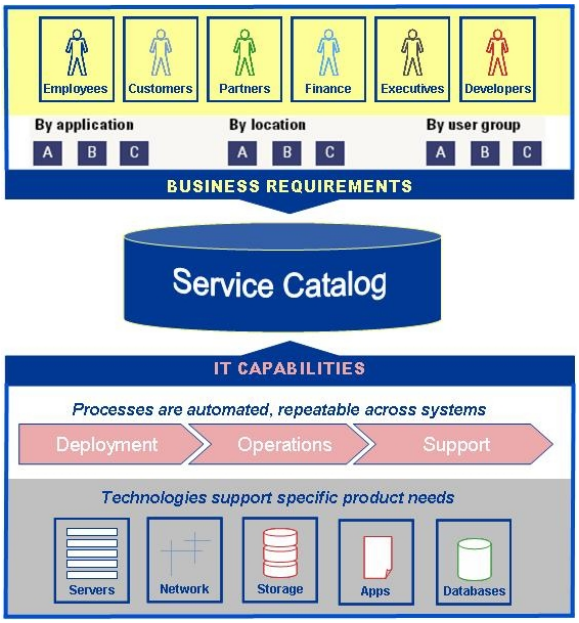


Figure 5. IT Service Catalog[3]

The City provides a diversity of IT services, from the Service Desk and technical support to database administration and software development. The IT service portfolio describes the available IT services, the specific quality and availability expectations for those services, and service performance data. By identifying and agreeing on defined IT services, and by establishing and monitoring reliable performance metrics for those services, users can trust that their business needs will be met.

[1] ITIL V3 – *Service Design*, p. 441.
[2] ITIL V3 – *Service Design*, p. 58.

[3] http://www.itsmwatch.com

7 IT FINANCIAL MANAGEMENT

7.1 Charging Method

The charging method is a critical component of sustainable IT operations. Starting in FY08, the City implemented a charging method based upon the number of full-time equivalent (FTE) employees in each customer unit. This FTE-based charging method allocates the cost of IT to a City department based on its share of the total FTEs in all departments. This method distributes the cost of shared IT services and infrastructure in a manner that is transparent and responsive to changing IT needs. Moreover, it allows the City to:

- Recover costs fairly, accurately, and efficiently
- Operate the IT organization as a business unit

7.2 IT Capital Replacement Fund

IT, like many capital assets, represents assets worth hundreds of millions of dollars that must be maintained, replaced, and enhanced over time. Like other capital assets, they are investments that possess risk and provide a return (tangible and intangible) to the City. Starting in FY08, the City created an IT capital replacement fund. The objectives for the IT capital replacement fund are:

- To spread the cost of replacing technology equipment to reduce the impact of large one-time purchases in a given year
- To spread the cost of IT replacement among City users
- To provide centralized accounting to accurately monitor the scope and cost of technology equipment replacement

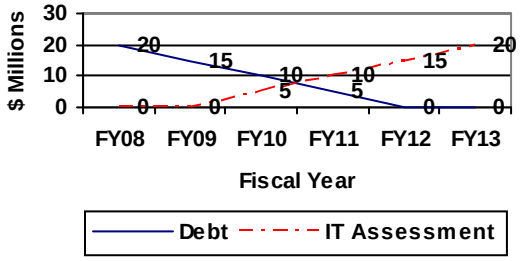


Figure 6. IT Capital Replacement Fund Schedule

The IT capital replacement fund was set at $20 million per year, initially funded with $50 million in tax notes over four years. The fund received $20 million in FY08 and the remainder over the next three years ($15M in FY09, $10M in FY10, and $5M in FY11). The remaining balance of $20 million is funded by an increase of $5 million in fees per year to the IT capital replacement fund until it reaches $20 million annually ($5M in FY10, $10M in FY11, $15M in FY12, and $20M in FY13). Due to a one-year delay in implementing the fee, the IT capital replacement fund will be $15 million for FYs 10 – 12.

The IT capital replacement fund may take advantage of "gain sharing" where appropriate. IT projects can be selected for the tangible benefits and return on investment (ROI) that they deliver to the City. These tangible benefits may include increases in revenue or decreases in direct costs. Where allowed, a specified amount of money received from these benefits can be used to supplement the IT capital replacement fund.

8 ORGANIZATIONAL STRUCTURE AND STAFFING

8.1 Introduction

Human capital development and management is the lifeblood of any high-performing organization. The IT strategic plan cannot be achieved without having the right people doing the right things in the right way. Human capital development and management:

1. Defines the jobs needed to deliver IT services successfully to our customers
2. Articulates well-defined job descriptions linked to clear performance expectations, knowledge, and skills
3. Verifies that there is a match to the new job descriptions and the current incumbents
4. Focuses on filling vacant positions through recruiting and selection rather than solely on advertising
5. Develops employees through a defined performance management process and well-mapped career path
6. Links individual performance goals to the departmental human capital management plan and departmental performance objectives

8.2 Organizational Structure

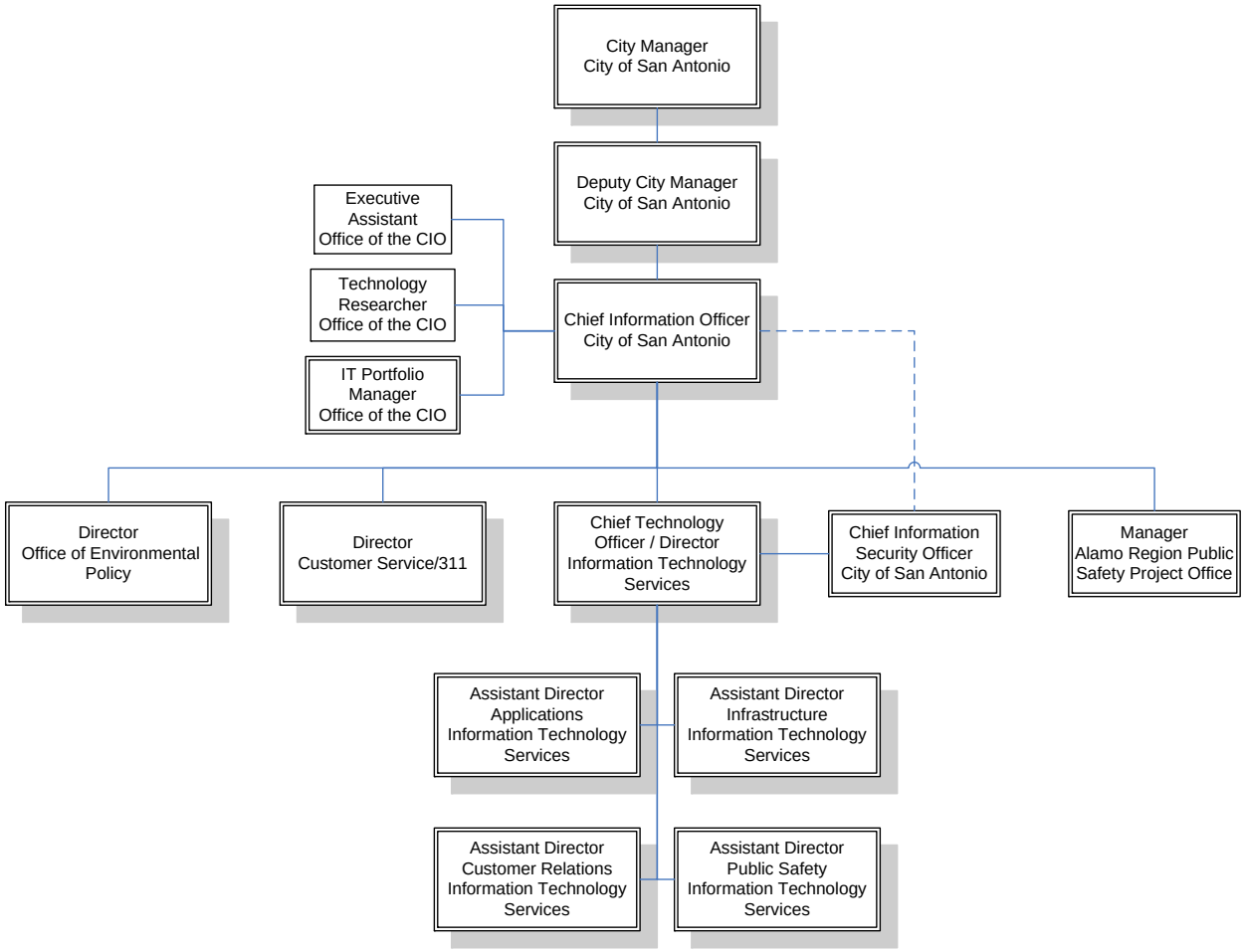


Figure 7. ITSD Organizational Structure

8.3 Job Descriptions

Prior to 2010, the City had approximately 39 different job descriptions used for employees with IT job functions. However, those job descriptions did not accurately reflect the work performed or specify the necessary knowledge, skills, and experience required. To correct this problem, ITSD engaged the services of Gartner, Inc., a technology research and consulting firm, to help establish new IT job descriptions and create a transition plan to implement them. These job descriptions were re-written to reflect the work performed and the knowledge, skills, and experience required. The new job descriptions describe what the IT employees do and the subject matter they must master. Additionally, they reflect industry standards and clarify career paths for IT employees. Today, IT has 89 new job descriptions within 22 job families.

8.4 IT Staffing and Pay Plan

Once the job descriptions were written, the new jobs were mapped to the appropriate pay ranges that reflect the City's compensation philosophy, industry standard data, and local market conditions. The City purchased Gartner's 2007 annual IT job pay survey for this effort.

The new IT-specific jobs and pay plan meet the following objectives:

- Support the IT service delivery business model
- Be market-competitive and flexible enough to adjust to a dynamic labor market
- Provide a clear path of progression through the job families
- Recognize there are two distinct career tracks within the field of IT: (1) Technical Specialist and (2) Managers of IT employees

8.5 Skills Assessment

Placing existing employees within the appropriate job description required an assessment of their skills and a thorough job analysis. The skills assessment compared the current competencies of existing employees and the competencies required to achieve future business objectives. The gaps identified by the skills assessment were used as a blueprint for professional development and is being used to hire new talent, train existing employees, and source contract labor.

8.6 Recruiting and Selection

The historic method for hiring IT professionals was not effective. The City is working with the Recruitment Division of the Human Resources Department to extend its capabilities beyond merely advertising. These capabilities include seeking out and recruiting candidates doing the type and quality of work of positions the City needs to fill. In addition, IT is implementing behavioral interviewing techniques to help predict a potential employee's future success based upon actual past behaviors instead of simply responses to hypothetical questions. The interview questions focus on determining the applicant's proficiency level in the specific competencies identified as critical to employee's success in that particular job.

8.7 Retention Strategy

The retention plan involves changing the way the City manages and leads, changing the way we invest in our employees' professional development, adjusting the new IT jobs by Gartner's market pricing to reflect market conditions, and actively recruiting quality team members and managers.

8.8 New Pay Matrix

As mentioned in Section 8.4, the City created two IT career tracks to reflect that within the IT field, there are professionals who aspire to be technical experts and others who aspire to be managers. The two tracks reflect the knowledge, skills, and experience necessary for individuals to be successful.

Table 1 below reflects the change from a sample of IT's old job levels to the new job levels for the IT expert track.

Table 1. Technical Track Comparison of Old Plan to New Plan

Technical Track	
Technologist (Old Job Levels)	**Technologist (New Job Levels)**
Programmer I, Programmer II	Technology Analyst (A)
Senior Systems Programmer	Technology Senior Analyst (SA)
System Programmer Supervisor	Technology Lead (L)
Non-Employee Contractor	Technology Expert (TE)

Table 2 below reflects a short, high-level description of the knowledge, skills, and experience necessary for the new Technologist job titles.

Table 2. Technical Track Job Level Descriptions

Technical Track	
Levels	**Description**
Technology Analyst (A)	Entry level and early career knowledge, skills, education, training, performance, and experience in field
Technology Sr Analyst (SA)	Average knowledge, skills, education, training, performance, and experience in field
Technology Lead (L)	Knowledge, skills, education, training, performance, and experience in the top third of field
Technology Expert (TE)	Qualified to be a top level consultant in their field and a person on whom other experts depend for advice

The Technical Expert (TE) level above is designed to attract and hire, where cost effective, highly skilled, consultant-grade employees who will be "the expert's expert." Normally, the city contracts for such services at $100-$300 per hour. These same experts can be selectively hired as employees for $40 to $60 per hour as their contract fee is marked up by 50% or more. The savings from such a program can be substantial and will provide a top career track goal for IT Technical Specialists. Still, this level will be used sparingly and protected to preserve the integrity of such a designation.

Table 3 below reflects the change from a sample of IT's old job levels to the new job levels for the IT manager track.

Table 3. Manager Track Comparison of Old Plan to New Plan

Manager Track	
Manager (Old Job Levels)	**Manager (New Job Levels)**
Supervisor	Supervisor (S1) – Supervisors
Assistant Information Services Manager (AISM)	Manager 1 (M1) – IT Manager

Information Services Manager (ISM)	Manager 2 (M2) – Senior IT Manager
Director & Assistant Director	Director & Assistant Director

Table 4 below reflects a short, high-level description of the responsibilities for the new manager job levels.

Table 4. Technical Track Job Level Descriptions

Manager Track	
Levels	**Description**
Supervisor (S1) – Supervisors	Manages staff
Manager 1 (M1) – IT Manager	Primarily manages S1s
Manager 2 (M2) – Senior IT Manager	Primarily manages M1s
Executive – Director & Assistant Director	Same as current system. Manages M2s

8.9 Market Adjustments

Several segments of the IT skill market remain very competitive and have shortages of skilled workers that exacerbate pay issues. Market pay data is used to adjust the pay matrix ranges to allow City IT salaries to be competitive and individual job descriptions will be adjusted within a range to reflect market conditions.

8.10 Performance Pay

A variable performance pay component is proposed to reflect group performance. It is recommended that a separate performance pay system be developed for ITSD to reward and acknowledge the specialized skills and market for these jobs. A new goal setting process based on performance management objectives will be developed to establish the benchmarks for group rewards.

9 RISK AND SECURITY MANAGEMENT

The Risk and Security Management section of the IT Strategic Plan is being developed separately. The complete Information Security Strategic Plan will be incorporated when available.

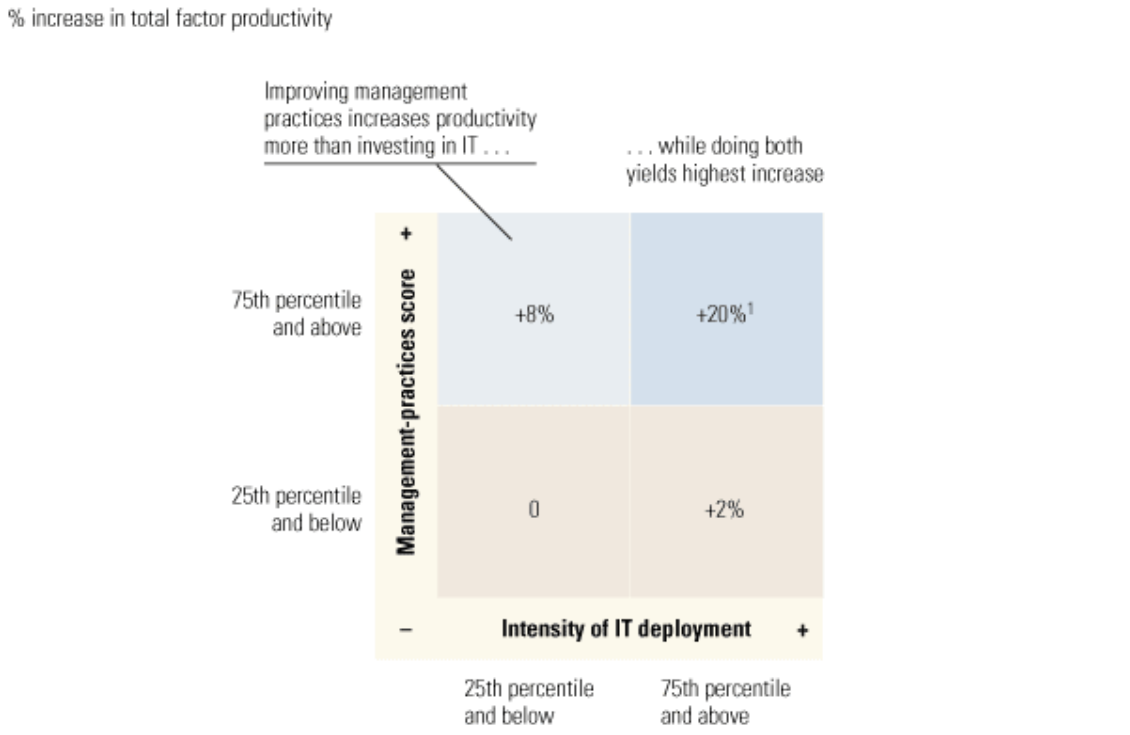
The City is defining and implementing an enterprise-wide information security program to protect City information assets from unauthorized access, use, disclosure, duplication, modification, diversion, or destruction – whether accidental or intentional – in order to maintain their confidentiality, integrity, and availability. This plan is based on NIST (National Institute of Standards and Technology) Special Publication 800-53, which is a risk-based best practices approach to information systems security. The objective of a risk-based security program is not to provide remedies for every possible security breach or gap, but to delineate a comprehensive, systematic approach to risk identification, mitigation, and management.

In this risk-based program, City information assets are inventoried and the risks to them assessed based upon what is their potential for realization. This assessment includes the trust, cost, and availability needed for the asset. The information security controls – management, operational, and technical – implemented for that information asset are determined by the cost of the risk to the City, if realized, discounted by the probability, or the likelihood, that the risk will occur.

CONCLUSION

This citywide IT Strategic Plan serves as the basis for various departmental and divisional units to develop or update their own plans. For example, in January 2009, the Public Safety Division of ITSD published its *Three Year Information Technology Strategic Plan for Public Safety and Emergency Operations*. As previously mentioned, an Information Security Strategic Plan is being developed separately from this plan. Additionally, ITSD is developing its department-specific IT Strategic Plan aligned with the strategies and directions described herein. These documents will be added to this plan as appendices as they are adopted and become available.

Finally, it must be noted that investments and improvements in IT are not an end in themselves. IT must demonstrate value to the City by lowering the cost of government – to the City and its residents, businesses, visitors, and employees – as well as enabling business transformation. In 2004, the consulting firm McKinsey and Company published a research study showing that "IT expenditures have little impact on productivity unless they are accompanied by first-rate management practices."[4] Specifically, additional investments in IT alone only raised productivity by two percent. Improving management practices alone raised productivity by eight percent. Yet, doing both yielded the greatest benefit of twenty percent.



[1]For 9 out of 10 companies whose management-practices scores and levels of IT deployment are both in top quartile.

Source: London School of Economics–McKinsey survey and analysis of 100 companies in France, Germany, United Kingdom, and United States

[4] Stephen Dorgan and John Dowdy, "When IT lifts productivity." *The McKinsey Quarterly*, no. 4 (2004).

Thus, IT can enable substantial business transformation, but it cannot drive it. IT is not a magic bullet. The focus must remain with business leaders directing the efforts to improve City operations and services to our residents, businesses, visitors, and employees. Nevertheless, IT provides an invaluable foundation and capability that enables our business leaders to achieve tangible and significant results.

ACRONYMNS

ACM	Assistant City Manager
AD	Assistant Director
AISM	Assistant Information Services Manager
BCIJS	Bexar County Integrated Justice System
CIO	Chief Information Officer
CISO	Chief Information Security Officer
COSA	City of San Antonio
COTS	Commercial Off-The-Shelf
CRM	Customer Relationship Management
CTO	Chief Technology Officer
ECM	Enterprise Content Management
ELT	Executive Leadership Team
EMNI	Enterprise Master Name Index
EOC	Emergency Operations Center
ERM	Enterprise Resource Management
FTE	Full-Time Equivalent
IP	Internet Protocol
ISM	Information Services Manager
IT	Information Technology
ITIL	Information Technology Infrastructure Library
ITSD	Information Technology Services Department
ITSP	Information Technology Strategic Plan
NIST	National Institute of Standards and Technology
OMB	Office of Management and Budget
PC	Personal Computer
PMO	Project Management Office
ROI	Return on Investment
SaaS	Software as a Service
SPC	Strategic Planning Council
SOA	Service-Oriented Architecture
TE	Technology Expert
VoIP	Voice over Internet Protocol

City of San Antonio