August 15, 2011

TO: Honorable Mayor and City Council

FROM: Department of Information Technology

SUBJECT: **CITY COUNCIL WORKSHOP ON THE INFORMATION TECHNOLOGY STRATEGIC PLAN**

RECOMMENDATION:

This report is submitted for information only.

BACKGROUND:

Historically, the City of Pasadena has taken a decentralized approach to Information Technology which lacked both an enterprise vision and a comprehensive funding model. This has resulted in disparate and outdated technologies being used throughout the City. Ongoing development of the City's IT infrastructure has been further exasperated by current fiscal realities. In response to these challenges the City launched a series of initiatives in 2010 to consolidate and streamline key IT functions across the city, establish an Information Technology Governance Committee (ITGC), and commission the development of an Information Technology Strategic Plan.

This workshop of the City Council is designed to provide an opportunity for discussion of the following topics:

- IT Strategic Plan Goals & Objectives
- Implementation Roadmap
- E-Government
- Funding Strategies

IT Strategic Plan

In August 2010, the ITGC, which is comprised of six department heads and an Assistant City Manager, commissioned the development of a Five-Year Information Technology Strategic Plan (ITSP). The plan, which was approved by the ITGC in April 2011, is the result of a comprehensive and thorough assessment of the City's existing technologies, operational requirements and service delivery needs. The ITSP is the product of a collaborative effort, with City management and staff from nearly all departments

contributing considerable time and providing valuable input. The plan is technologically strategic, operationally responsive, and fiscally responsible. It addresses the unique technology requirements of each department as well as the enterprise needs of the City and Community as a whole. The first year approved projects are included in Department of Information Technology (DoIT) FY 2012 Operating and CIP Budgets and can be viewed in the FY 2012 DoIT Planned Projects document (Attachment A).

The City's goals for the ITSP process were to:

- Create a comprehensive IT Strategic Plan meeting the goals, objectives and vision of the community and organization
- Ensure sound investments in physical systems and human resources

The objectives of the IT Strategic Plan were to assess a broad range of issues related to the City's information systems, including:

- Examining ways to enhance public access to information and services
- Developing an IT investment strategy fostering enhancement / replacement of aging systems
- Developing a plan with enterprise focus to integrate existing modern and new systems
- Maintaining flexibility to incorporate emerging information technologies to meet public/city needs

In developing the ITSP, data was collected regarding existing and planned Information Systems, management interviews with all Department Heads, 32 business requirements definition workshops, online surveys from constituents and city staff, and internal focus groups. All of this data was analyzed and evaluated in order to develop a prioritized list of online services and technology initiatives that resulted in the ITSP 5 Year Implementation Roadmap (Attachment B). The plan includes a number of City services to be made available online, along with an estimated budget and timeline to develop and implement the online services. It also includes many other technology investments that are prerequisites; including developing the underlying technology infrastructure needed to support the online services as well as the staff skills to sustain these new services.

During the workshop we will highlight a number of key enterprise initiatives in the 5 year roadmap. These include deployment of a new Virtual Desktop Infrastructure (VDI) and the associated Storage Area Network (SAN) that will create a more efficient environment for managing desktop computers across the entire organization. We will also discuss the multi-year plans to upgrade or replace our aging Enterprise Resource Planning (ERP), and Land Management System (LMS) applications which are critical to the efficient management of the City's resources. We will also discuss plans for developing and deploying a number of online E-Government applications in areas such as Permits & Payments, Application Submittal, and a unique application designed to

streamline processes associated with administration of the Community Development Block Grant (CDBG) program.

IT strategic planning fosters planned budgeting, adequate program management, minimizes risks, and ensures long term success by establishing a solid technology foundation; deploying strategic business technologies; and establishing a technologically viable and fiscally responsible roadmap investing in reusable enterprise solutions and employing online/web-enabled services.

E-Government Initiatives

The term E-Government refers to the use of new technologies, such as interactive online transactions and mobile applications that transform the way government agencies interact with citizens, businesses, and other government entities. A key component of the IT Strategic Plan was an emphasis on developing E-Government and Online Applications. This was seen as providing a significant opportunity for the City to achieve operational efficiency, contain costs, and maintain service levels while continuing to meet customer expectations. On July 7, 2011 the Information Technology Governance Committee adopted the city's first E-Government and Online Applications Strategy which will guide the City's efforts to become a more citizen-centered, efficient, and results-oriented government

The primary goals of the E-Government and Online Applications Strategy are:

- Enable convenient and cost effective online services
- Gain efficiencies and savings through investment in business process automation
- Provide visibility and transparency to the public

The key objectives to implementing this strategy include:

- Implement the technology foundation to provide online services through the web, mobile and social networking platforms
- Emphasize web-based and mobile-enabled applications when making new investments
- Leverage and prioritize initiatives that meet multiple departments requirements

To implement the IT Strategic Plan and E-Government Strategy, the City will require change. This change goes beyond the migration, development, and integration of information technology systems to creating an organizational culture that collaborates, trains, and shares information to achieve common goals. Over the years IT planning and coordination in the City has been inadequate and departments have been left to plan and build systems on their own. Going forward an emphasis will be placed on building systems that meet the common needs of multiple departments. The IT

Governance framework which is now in place is designed to facilitate this process by coordinating investments and resources for technology initiatives citywide to provide the highest likelihood for success and optimum return on investment. The availability of funds and staff resources with the requisite skills and capabilities to implement the initiatives within the IT Strategic Plan and E-Government Strategy are known challenges. The Department of Information Technology is working to address this year by developing a staff resource plan and acquiring the requisite skills.

Funding Strategies

For Pasadena to remain competitive, vibrant and prosperous, city government needs to modernize. Just as we make long-term investments in maintaining our physical infrastructure, the same sort of long-term investments in our information technology infrastructure will be necessary to transform our government programs. The old model for funding technology is not sustainable in view of the budget challenges the City faces. Flexible and creative approaches to funding technological change must be devised and deployed to supplement traditional funding methods. Fees for Service, Advertising Fees, Creation of a Technology Investment Funding Pool, and Regional Shared-Services are among the new and flexible funding mechanisms that will be explored for consideration during the upcoming years to fund technology initiatives as part of the budget and CIP processes.

Under current practices and statutes, planning for total lifecycle costs and eventual retirement or replacement of an information system tends to be limited by the appropriation practices under the budget process. The appropriation process and accounting rules have the effect of forcing long-term processes through an analysis and decision cycle that emphasizes short-term priorities. Although time tested and well understood, the process reflects limitations of applying an annual planning cycle to an environment of continual change.

The "siloed" nature of Pasadena's budget process can also inhibit creative solutions across City departments. The City is working through the IT Governance Committee (ITGC) to find effective mechanisms to budget for IT investments across departments, to share core technologies across departments, and to capture and reinvest savings from operational improvements across departmental borders.

In recognition of these issues, the City's IT Strategic Plan identifies better resource management as one of the key strategies for improving IT management. The cornerstone of better resource management is the development and deployment of funding strategies that reflect the full system life cycle.

The goals of establishing a comprehensive IT funding strategy are:

- Define funding criteria and controls for each funding approach
- Define an overall technology review process including funding strategy

- Impose rigorous financial analysis and systems planning disciplines
- Obtain ITGC project approval prior to committing to an approach
- Establish working relationships among departments, budget and technology leaders to ensure that an optimal mix of revenue streams matches up with citywide and departmental priorities

The following objectives will be used in identifying the appropriate funding tool for the technology initiatives:

- Take a long-term investment approach to funding technology projects.
- Supplement City's historic methods for funding enabling technologies.
- Further develop budget policies and practices that promote enterprise decision-making on technology.
- Adopt a phased-approval process for major systems where continued funding is tied to completion of milestones in the design, planning and implementation phases of a project.

The following outlines a number of strategies used in other government bodies to fund technology systems:

- Direct Appropriation
- Rates or Chargeback Allocation
- Departmental Internal Funding
- Grants
- External User Fees
- Advertising Fees
- Technology Invest Fund
- Lease or lease-purchase of systems
- Regional Shared-Services

Currently, the City relies mostly on direct appropriations, rates or chargeback allocations, departmental internal funding, grants, and to some extent capital improvement funds. The remaining strategies represent new directions for Pasadena: fees for service, advertising fees, creation of a technology investment funding pool, and regional shared-services. It is important to recognize that no single strategy is ideal for all situations, and some systems may require a mixture of funding strategies.

For the City to implement enterprise decision-making on technology, it must develop effective mechanisms to budget for IT investments across fiscal years, to share core technologies across departments, and to capture and reinvest savings from operational improvements across departments.

Except in cases of emergency, IT investment proposals will be subjected to rigorous and independent review by ITGC before consideration in the budget process. The review will include analysis of the business case, IT architecture, planning and project management, and risk and security assessments.

COUNCIL POLICY CONSIDERATION:

This workshop supports to the City Council's strategic goals of supporting and promoting the quality of life and the local economy and maintaining fiscal responsibility and stability.

Respectfully submitted,

DIANAH NEFF
Interim Chief Information Officer
Department of Information Technology

Prepared by:
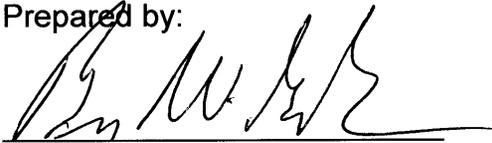
Bryan W. Sands
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Department of Information Technology

Approved by:

MICHAEL J. BECK
City Manager

Attachment A: ITSP - DoIT FY 2012 Planned Projects
Attachment B: ITSP - 5 Year Implementation Roadmap

Attachment A: ITSP – DoIT FY 2012 Planned Projects

City of Pasadena

TO: Dianah Neff, Interim Chief Information Officer

FROM: Phillip Leclair, Deputy CIO
           Bryan Sands, Deputy CIO

DATE: June 21, 2011

RE: FY2012 DoIT Planned Projects

The Department of Information Technology Operations and Customer Service Divisions conducted an exercise to estimate time, resource and effort to schedule Year 1 IT Strategic Plan projects and other projects appearing on the DoIT Master Project List for FY2012. A total of forty projects were assessed based on time, staff resource availability and funding.

Based on the analysis, we recommend DoIT commit resources to complete 31 of the 40 requested projects in the next fiscal year.

While the IT Strategic Plan Implementation Roadmap calls for completing 25 initiatives in the first year, realistically the plan is too aggressive and unachievable given available resources. When the plan was developed earlier this year, the consultant did not evaluate existing IT resource commitments to operations tasks or other outstanding project requests and noted this in the Sustainability and Human Resource Requirements section of the plan.

In order to meet the planned project commitments for the next fiscal year, we expect the number of Unplanned Projects be reduced to zero. Operations activities will be maintained at 25%, which reflects a "lights-on" and "break-fix" approach to maintaining IT services. Long-term, increasing the percentage of operational maintenance activities is required to maintain predictable and reliable performance and increase capabilities and flexibility to respond to changes to business needs.

DoIT rough percentages of work activity in the last year:

OPERATIONS Application upgrades, account changes, desktop support, service break-fix, etc.	**25%**
PLANNED PROJECTS Planned projects on the Master Project List.	**35%**
UNPLANNED PROJECTS Emergency projects, special initiatives, etc., not appearing on the Master Project List.	**40%**

Attachment A: ITSP – DoIT FY 2012 Planned Projects

The remainder of this document highlights the projects that can be reasonably accomplished during FY2012 given commitments to operational activities and existing projects. Any changes to the project prioritization may be requested and will be evaluated, however many of the resources required are interwoven between projects and some projects have dependencies that are not clearly shown in the charts below.

Planned Projects for FY2012

There are two groups of planned projects for FY2012. The first are projects that are planned to be completed based on time, staff resource availability and funding. The second group will consist of mainly research and analysis in preparation for a solicitation and/or the formulation of resource requirements needed to complete the initiative.

See Assumptions and Requirements later in the document for specific details.

ITSP Priority	Planned FY12	Project Description	Department	FY2012 Estimated Cost	Additional Resource Needs
Planned for Completion					
1	YES	Replace Aging PCs	Enterprise	500,000	
3	YES	Virtual Desktop Infrastructure	Enterprise		
4	YES	Improve Wireless Local Service	Enterprise	95,000	
5	YES	Network Core Router Lifecycle Replacement	Enterprise	225,000	
7	YES	Continue Server Virtualization Program	Enterprise	30,000	
9	YES	SAN Replacement	Enterprise	300,000	
12	YES	SharePoint 2010 Upgrade	Enterprise	25,000	
13	YES	Complete City Website Conversion: Enterprise	Enterprise	30,000	
14	YES	Parking Management System	Transportation/Finance	175,000	
15	YES	ePersonality Self Service Module/Enhancement	Human Resources	25,000	
17	YES	Library Statistics Application	Library	5,000	
18	YES	Multi-space Meter Project	Transportation	7,500	
19	YES	Digital Cameras with digital date stamp	Public Health	2,000	
20	YES	Public Works Street Light Inventory	Public Works	30,000	
24	YES	Online Payments (Enterprise)	Enterprise	100,000	250,000 (2 FTE)
25	YES	Online Application Submittals	Enterprise	100,000	
Other - 1	YES	Rapid Bus Projects: Metro / Fair Oaks Blvd. / Foothill Transit	Transportation	0	
Other - 2	YES	Lake Avenue ITS Fiber Build	Transportation	827,000	
Other - 7	YES	eDiscovery: Email compliance & archiving	Enterprise	30,000	
Other - 8	YES	AvidXchange	Finance	75,000	
Other - 11	YES	EOC PWP Building at City Yards	Fire	500,000	
Other - 12	YES	HVAC Monitoring System	Public Works	3,000	
Other - 13	YES	Service Desk Express (SDE)	DOIT	36,000	
Other - 14	YES	Overhead Fiber Replacement	DOIT	35,000	
Other - 15	YES	Pasadena Radio Project	Enterprise	1,500,000	
Research & Analysis Only					
11	YES	Finance System / ERP (Enterprise Resource Planning)	Finance		30,000 *
21	YES	Intelligent Transportation System (SAFETEA-LU)	Transportation	1,770,000	
22	YES	Customer Billing System (ECIS)	Water & Power	1,575,000	
Other - 3	YES	Adaptive Traffic Control System	Transportation	500,000	
Other - 4	YES	Smart Signaling	Transportation	75,000	
Other - 5	YES	Traffic Count Database	Transportation	25,000	

* Reflects $30K Year 1 expenditure for external resources to prepare and coordinate RFP solicitation.

Attachment A: ITSP – DoIT FY 2012 Planned Projects

Notable Points and Assumptions:

- City Manager FY2012 Focus Areas covered:
  - Finance System (Enterprise Resource Planning) Replacement
  - ePersonality Self Service Module for Human Resource Automation
  - Online Application Submittals and Online Payments for eGovernment Capabilities
  - Replace Aging PCs/Virtual Desktop for infrastructure improvements
- 19 of 25 Year 1 IT Strategic Plan Projects will be completed
- 31 of 40 total projects requested will be completed
- Many projects have dependencies and sub projects not reflected in the list:
  - E.g. Virtual Desktop Infrastructure contains 8-10 sub projects
- Multiple Transportation initiatives are in the research and analysis phase, but are assumed to require dedicated resources to integrate new technology into existing City infrastructure and support the technologies long-term. A transportation IT Analyst will be hired to support the planning phases during FY2012.
- Online Payments (Enterprise) will move forward assuming the transfer of a FTE from Water & Power in July 2011.

Requested Projects (Unscheduled)

Below are 9 projects that are not in the FY2012 work plans for DoIT and are unlikely to be achievable within the fiscal year given staff resource, skills, and funding. See Assumptions and Requirements later in the document for specific details.

ITSP Priority	Planned FY12	Project Description	Department	FY2012 Estimated Cost	Additional Resource Needs
2	NO	PC Power Management Software	Enterprise	TBD	Deferred
6	NO	Consolidate Data Centers	DOIT	50,000	Deferred
8	NO	Server / Network Infrastructure Lifecycle Replacement	Enterprise	150,000	Deferred
10	NO	Electronic Health Records (Health)	Public Health	300-400,000	300-400,000 (1 FTE)
16	NO	Replace Land Management System	Enterprise	15,000*	15,000* (1 FTE)
23	NO	Online Accounts (Enterprise)	Enterprise	TBD	250,000 (2 FTE)
Other - 6	NO	Questys Upgrade	City Clerk	TBD	Deferred
Other - 9	NO	Budget Systems (Web)	Finance	TBD	Deferred
Other - 10	NO	Code Compliance Inspection (GUI interface for BPA)	Planning	TBD	Deferred

* Reflects $15K Year 1 expenditure for external resources to prepare and coordinate RFP solicitation.

Notable Points and Assumptions:

- Deferred projects are due to a combination of staff resource availability and FY13 projects that replace legacy systems. e.g. Finance System Replacement may replace Budget Application
- Other unscheduled projects lacks staff resources, skills and/or funding for project success
- Application Developer for web/online, Business Analyst and Project Manager, are the most frequent resources needed

Attachment B: ITSP – 5 Year Implementation Roadmap

IT Strategic Plan & Implementation Roadmap
City of Pasadena

March 28, 2011

Figure 3.2.1: Overall 5 Year Implementation Roadmap

YR.	No.	Type	ITSP Initiatives	2011/12	2012/13	2013/14	2014/15	2015/16
YR 1	1	HW	Replace Aging PCs			304,800	304,800	304,800
	2	SW	PC Power Management Software	DOIT				
	3	INFRAST	Virtual Desktop Infrastructure	500,000	250,000			
	4	COM SYST	Improve Wireless Local Service	DOIT				
	5	INFRAST	Network Core Router Lifecycle Replacement	225,000				
	6	INFRAST	Consolidate Data Centers	50,000	150,000	150,000	150,000	
	7	HW	Continue Server Virtualization Program	30,000	30,000	30,000	30,000	30,000
	8	INFRAST	Server / Network Infrastructure Lifecycle Replacement	150,000	150,000	150,000	150,000	150,000
	9	INFRAST	SAN Replacement	300,000				
	10	D APPS	Electronic Health Records (Health)	500,000	28,000	28,000	28,000	28,000
	11	SW ENTER	Finance System / ERP (Enterprise Resource Planning)		3,000,000	400,000	400,000	400,000
	12	SW ENTER	SharePoint 2010 Upgrade	25,000	1,500	1,500	1,500	1,500
	13	CITY E-GOV	Complete City Website Conversion: Enterprise	30,000				
	14	D APPS	Parking Management System	75,000	15,000	15,000	15,000	15,000
	15	SW ENTER	ePersonality Self Service Module/Enhancement	25,000	5,000	5,000	5,000	5,000
	16	SW ENTER	Replace Land Management System	-	750,000	150,000	150,000	150,000
	17	D APPS	Library Statistics Application *	5,000	5,000	5,000	5,000	5,000
	18	D APPS	Multi-space Meter Project *	7,500	7,500	7,500	7,500	7,500
	19	PErIPHERAL	Digital Cameras with digital date stamp *	2,000				
	20	D APPS	Public Works Street Light Inventory *	Funded				
	21	D APPS	Intelligent Transportation System (SAFETEA-LU)	Funded	Funded			
	22	D APPS	Customer Billing System (ECIS)	Funded	Funded			
	23	CITY E-GOV	Online Accounts (Enterprise)	DOIT				
	24	CITY E-GOV	Online Payments (Enterprise)	DOIT				
	25	CITY E-GOV	Online Applicatoin Submittals	DOIT				
YR 2	26	D APPS	SCADA		Funded			
	27	D APPS	Smart Grid		Funded			
	28	D APPS	GIS System Enhancement		Funded			
	29	HW	Remittance Processing		50,000	10,000	10,000	10,000
	30	INFRAST	Integrate the DOIT and DOT Fiber Networks		185,000	-	-	-
	31	INFRAST	City Fiber Expansion		75,000	75,000	-	-
	32	SW ENTER	Enterprise Content Management System (Enterprise)		248,000	126,250	236,380	106,900
	33	HW	Implement Imaging Systems Hardware		30,000	30,000	30,000	30,000
	34	CUST E-GOV	Online Appointment Scheduling (Enterprise)		DOIT			
	35	CITY E-GOV	Online Permitting Applications (Enterprise)		130,000	16,000	16,000	16,000
	36	CITY E-GOV	Online Inspection Application (Enterprise)		160,000	20,000	20,000	20,000
	37	CUST E-GOV	Online Customer Service Requests (Enterprise)		DOIT			-
	38	COM SYST	Voicemail & Unified Messaging		100,000			
YR 3	39	D APPS	New Police RMS, Interface to FMS & GIS,			700,000	100,000	100,000
	40	CITY E-GOV	Online Work Order Application (Enterprise)			85,000	16,000	16,000
	41	D APPS	Develop Property History DB Application			DOIT		
	42	SW ENTER	Develop GIS DOT Applications			DOIT		
	43	CITY E-GOV	Asset Management Application (Enterprise)			130,000	16,000	16,000
	44	SW ENTER	Update Existing Parcel Database (PPD)			DOIT		
YR 4	45	SI	PRC Application Program Interfaces				50,000	
	46	SI	CAD & Firehouse Interface				50,000	
	47	CITY E-GOV	Consolidate Electronic Employee Directories (Enterprise)				DOIT	
	48	CITY E-GOV	Insurance DB & E-Forms (Enterprise)				DOIT	
	49	SW ENTER	Public Records Act System Application (Enterprise)				DOIT	
	50	CUST E-GOV	Library: Research / reference services				DOIT	
YR 5	51	CITY E-GOV	Online Purchasing Application (Enterprise)					200,000
	52	D APPS	Implement Attendance Tracking					25,000
	53	D APPS	Upgrade Q-Flow (Permitting)					5,000
	54	CUST E-GOV	Online Parking Garage: View space availability					DOIT
	55	HW	Provide Walk Up Kiosks					6,000
			Yearly Subtotals	1,924,500	5,370,000	2,439,050	1,791,180	1,647,700

13,172,430

ITSP Part 3: **Implementation Roadmap**