



CITY OF ARVADA



2009-2013

Information Technology Strategic Plan

“Providing value through innovative technology and excellent service”



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Revised 2008

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I. Introduction

The Information Technology (IT) Department has prepared this strategic plan in conjunction with other planning documents from the City's Executive Management Team (EMT) and the IT Council.

The intent of this plan is to guide the City of Arvada's information technology resources over time. The rapid changes in the technology can make it hard to quantify in detail so this plan is designed to serve as a framework only. Continual monitoring is necessary to ensure that technology selected meets the identified needs presented by IT customers. This Strategic plan supplements the City of Arvada's Information Technology business plan (2 year project and resource plan). Prior accomplishments can be found on the City's web site, www.arvada.org. Over the last decade the department has completed hundreds of projects, implemented new innovative systems and fine tuned project and management methodologies. The IT Department has matured and evolved.

Specific objectives of the plan include:

- To summarize technology trends relevant to the City and technology industry.
- To profile current infrastructure, resources, and systems.
- To provide information regarding tactical plans and action steps for upcoming years.
- To identify proposed systems needed to support City goals.

Vision, Mission, Goals and Guiding Principles

Good to Great

In the City of Arvada

The Executive Management Team (EMT) has adopted the *Good to Great* concepts for the City of Arvada. This means that our focus is for the organization to be in the pursuit of "greatness" outlined in the book *Good to Great* by Jim Collins. Collins has identified three major components, drawn as intersecting circles that are critical in great organizations. The EMT spent several weeks evaluating these three components and have identified the key areas for the City of Arvada:

- What are we passionate about? - **Excellent Personal Service**
- What are we the best in the world at? - **Partnerships**
- What drives our resource engine? - **Allocating Resources to the "Right Stuff"**

The point where the circles/components intersect is the "hedgehog concept", or the one thing we do and stick to no matter what. In essence, the "hedgehog concept" is the vision of the organization; in Arvada our vision is *"Continuing to Build a Great Community."*





City Mission Statement

The City of Arvada is a superior customer-oriented organization that provides safety and protection, essential services, recreational opportunities, fiscal accountability, and strives for community enrichment and personal growth. **Adopted 10/94**

City Vision Statement

Continuing to Build a Great Community. Adopted 07/05

City of Arvada Business Goals

What the City does:

- Provides government services that are reliable, credible, and accessible in a timely manner
- Assesses satisfaction with the service on an ongoing basis
- Makes improvements on an on-going basis

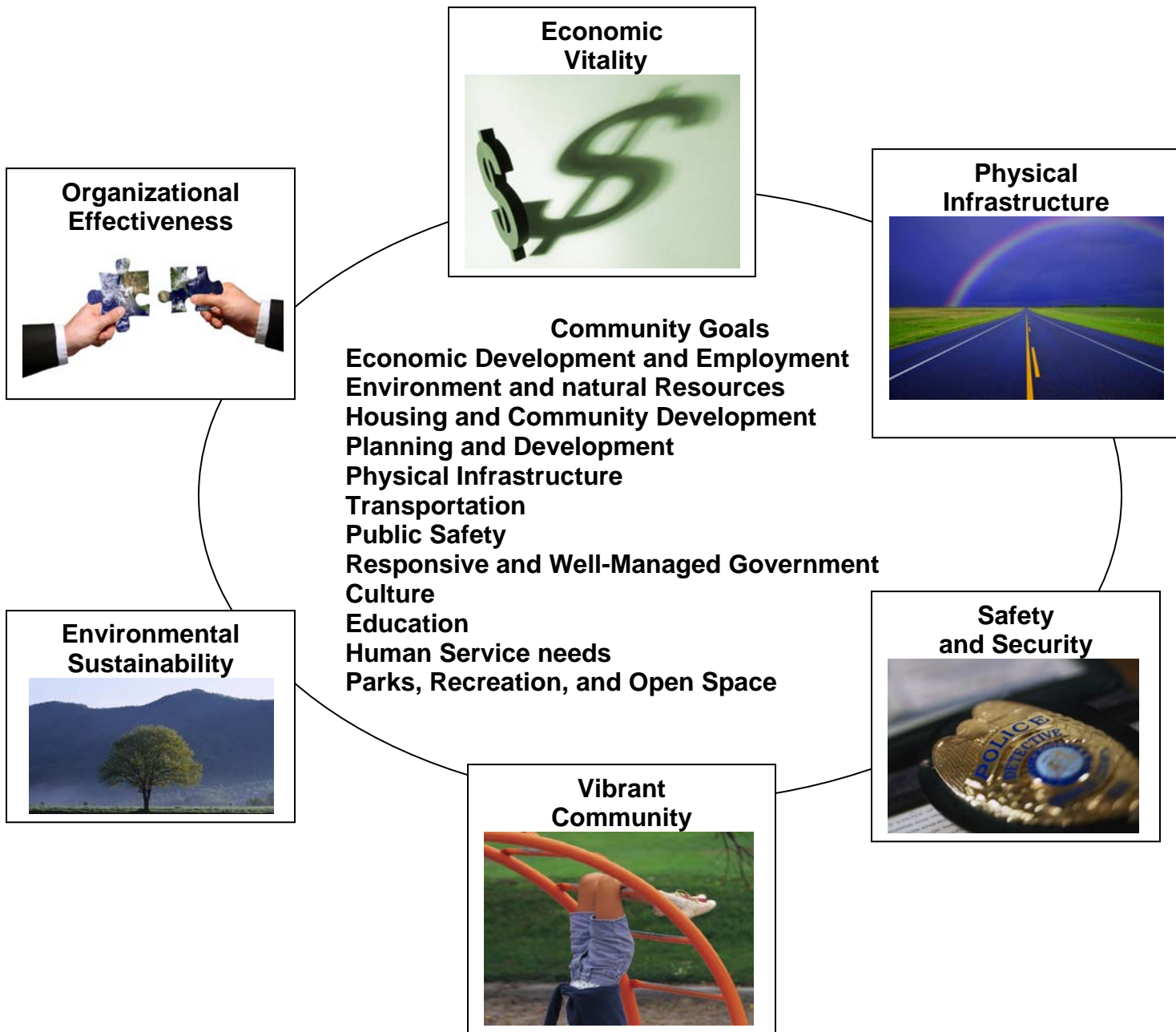
How the City does this:

- Operates ethically, compassionately, and appropriately
- Is fiscally responsible with all available resources
- Conducts business with a look towards the needs of future generations
- Ensures City services are provided by a highly qualified and well trained work force



City Results and City Council Community Goals

The City of Arvada has 12 Community goals that guide our efforts. We have divided these into 6 result categories depicted below. We budget and plan with a focus on these outcomes.





IT Department Related City Council Goals, Objectives and Targets:

ORGANIZATIONAL EFFECTIVENESS



Objectives:

1. Be proactive in the use of technology.
2. Maximize the use of taxpayer dollars.
3. Continue to strive for high performance within all City departments and divisions.

2 Year Targets:

- a. Effective and Efficient Web Systems – more resources to keep up with the demand for services. Re-write the City’s Intranet and Internet sites embracing web 2.0 tools.
- b. Implementation of IT service management strategies to better align with the business and ensure that we add value to the organization.
- c. Police CAD/RMS System – partnering with system owner, re-evaluate the current system and investigate what new systems are available in the marketplace
4. Maximize utilization of available technology for efficiency, effectiveness, and/or public safety.

2 Year Targets:

- a. Disaster Recovery – continue to build redundancy into many essential city systems utilizing virtualization technology at the disaster recovery site. Includes Police records and dispatch systems, Financial System, Sales Tax, Email, etc.
- b. 3-1-1 Citizen Service and Information Sharing – to create a repository for organizational information for citizens and staff. Create a central point for phone calls and be able to track requests that come out of these contacts, through to completion.
5. Continue to analyze the City’s organizational structure and municipal policies for effectiveness and efficiency, involving all layers of the organization.

2 Year Targets:

- a. Business Process Management – The City needs to evaluate processes they perform now and how they are documented. This will help with the 3-1-1 system implementation and with succession planning.

ECONOMIC VITALITY

Objectives:

1. Be proactive in the use of technology.

2 Year Targets:

- a. Develop web applications that support the efforts of Economic Development., Urban Renewal and other areas to help achieve organizational objectives.
- b. Supporting Community Broadband – to leverage our interests in the global economy by increasing competition in broadband deployment.





PHYSICAL INFRASTRUCTURE

Objectives:

1. Continually manage and monitor data security to safeguard the City’s technical assets.
 - 2 Year Targets:**
 - a. Perform bi-annual security audits of the City’s computer systems and networks
 - i. Implement appropriate changes
 - ii. Implement changes needed for PCI compliance for credit card use.
 - b. Continue testing and expansion of the City’s Disaster Recovery (DR) site annually.
 - c. Continue to address E-Discovery needs to include Instant Messaging (IM’s) and web 2.0 products.
2. Increase network Bandwidth.
 - a. Implement a secured wireless network in City buildings, primarily for staff use but allow Internet access for citizen and guest use.
 - b. Increase bandwidth for our internet connection for incoming and outgoing Internet traffic.



SAFETY and SECURITY



Objectives:

1. Maximize use of available technology for efficiency, effectiveness, and public safety.
 - 2 Year Targets:**
 - a. Continue participation in metro area COPLINK data sharing system. Provide leadership for other communities joining COPLINK.
 - b. Continual maintenance and improvement of the Police Department voice and data systems to keep the lines of communication and the flow of information open to assist the Police Department in fulfilling its Public Safety mission

VIBRANT COMMUNITY

Objectives:

1. Engage the community to foster participatory government and an atmosphere of inclusion.
 - 2 Year Targets:**
 - a. Continue fostering use of Ask Arvada, the citizen request management system, and grow it into a 3-1-1 system.
2. Partner with the Arvada Center through technology.
 - a. Web site improvements
 - b. Internet distant learning
 - c. New e-commerce opportunities





ENVIRONMENTAL SUSTAINABILITY

Objectives:

1. Minimize the City's carbon footprint and maximize energy savings through technology. Ensure that we employ environmentally sound measures in utilizing material and energy resources and that procurement criterion includes sustainability specifications.

2 Year Targets:

- i. Continue moving forward with OS streaming and VDI (virtual desktops) to more efficiently utilize servers and reduce power at the desktop. Also progress toward the work from anywhere on any computer.
- b. Participate on Sustainability Committee:
 - i. As an active partner in harnessing technology energy consumption.
 - ii. Creating new effective ways to tele-commute from home.
- c. Partner with other jurisdictions to share technology resources.



Arvada's Business Planning Process

One of the Community Goals established by the City Council is a responsive and well-managed government. Historically the City has been successful in fulfilling that goal in traditional ways. The City now believes that a responsive and well-managed government must be flexible and adaptive. It must operate on common values and strive for one vision. More than ever before the organization must balance priorities and resources. Staff must examine existing programs and business practices and be open to new methods and solutions. The Competitive Business Plan for the City of Arvada provides a detailed account of the City's current situation, our desired outcomes, and the means to move from here to there. It will be a process of continuous improvement. The Arvada community has come to expect excellent customer service from the City and 93% have repeatedly ranked their quality of life in Arvada as "good" or "very good" in citizen surveys. What has not been clearly defined for the organization is the difference between "good" and "excellent" customer service and how to define quality of life.

City staff members are professionals who know their business and understand the competition presented by other communities and the private sector. Employee surveys indicate that recent organizational work done to clarify values, improve commitment to management training and development, and enhance communication have been successful. Employees are positive in their opinions about the organization's ability to balance an emphasis on performance and people. In other words, employees experience a sense of knowing clearly what their job is and believing that the organization has their interest in mind. What is still unclear for many is an understanding about where the City plans to be in the next twenty years and what part their current job and contribution plays in getting to that future.



City of Arvada – Information Technology Department

The need for technology services for the City has grown over the years with an emphasis on providing more efficient and effective use of city resources. The Department is comprised of 4 divisions: Information Services (IS), Network Systems (NS), Police Systems and General Services (Mail, Print Shop, Reception, and Cashiering Services.)

The Information Technology (IT) Department is responsible for the operation of the City's information and technology services, including IT infrastructure. The City's IT organization must provide ongoing support for client/server and browser based application processing in a sophisticated and secure network environment, replace legacy systems with new applications designed to operate in this environment, and provide an effective, flexible, responsive and secure structure to manage change and address the City's enterprise-wide information needs.

Presently, the staffing consists of thirty-two team members, including job shared and non-benefitted positions.

Strategic Direction

Technology usage in Municipalities

Many conflicting reports continue to try and predict the future of technology in the public sector. Although opinions differ on the current economy and the future of IT trends the focus has remained the same. Five themes emerge:

1. Monitor the technologies that will enhance your organization's capabilities in the areas of community building, collaboration and knowledge sharing.
2. Don't underestimate open source technology and shared / cloud services.
3. Technology will become increasingly accessible to all levels of the community and organization.
4. Expect pain with gain as you implement new systems. Business processes need to be changed to meet the software as it is designed off the shelf. Customizations are costly at each and every upgrade. Security of systems and information is never ending and especially relevant when implementing new systems.
5. The chief executives must provide leadership on technology initiatives from a business perspective when dealing with all current and new projects. Technology must be perceived as core business services, for example web content management is as mainstream as filling potholes.

IT's Brand:

Great Technology, Great Service **Adopted 08/08/08**

IT's Vision:

"Providing value through innovative technology and excellent service" **Adopted 12/07**

IT's Mission:

We intend to be the best at identifying and implementing technology and business solutions that prove to be effective and efficient to meet the City's business needs. Our employees skills, combined with their commitment to customer service will allow the City of Arvada to become a great technology service organization for the citizens of Arvada. **Adopted 06/01**



IT's Values:

- Set ambitious goals
- Set and Adhere to Project Plans
- Seek Clarity
- Communicate honestly and respectfully
- Master simplicity AND complexity
- Manage time wisely
- Succeed together

IT's Business Alignment Assumptions

- A shift in Business Strategy will affect the IT Strategic Plan, which will also affect required IT resources
- IT provides the foundation vital to the City's Business Practices
- City Business needs will be the driving force for IT architecture requirements
- IT Standards, Policies, and Procedures will be enforced city-wide
- The City will change procedures to fit purchased software rather than changing the software to fit existing procedures
- The IT industry is highly volatile and will affect City resource requirements, shared services will be utilized where possible.

City Technology Goals

- Provide residents, businesses and City staff convenient electronic access to information and services;
- partner with appropriate government entities, non-profit organizations and private firms in providing the most effective and efficient delivery of City government information services;
- deliver timely and effective responses to customer requirements;
- guarantee a reliable computer infrastructure;
- effectively manage the City's information and technology assets;
- ensure reliable connections between technology partners

The IT Department needs to continue its focus on project management and project prioritization. This needs to be done with our business partners. Use of prioritization techniques used by EMT will be utilized in project planning.



IT's Principles

Strategic Planning

- IT Strategic Plan will be a “living” document, changing standards and priorities as needed
- IT will focus on the future, projecting as far in advance as possible the long term resource requirements – data, equipment, software
- IT will focus on long-term information needs
- IT will work with partners to utilize shared services
- IT will continue to focus on IT as a service to satisfy future demands

City Business

- IT will incorporate our mission critical systems into the City’s Business Continuation Plan
- IT is moving to an open system environment
- IT will work to standardize on virtual environments for cost savings and disaster recovery
- IT will align all enterprise data to an open database environment
- IT will focus on integration over interfacing

IT Staff

- IT will develop employees’ skills to match the requirements of our systems and customers
- IT job descriptions and Knowledge, Skills and Abilities will be reviewed often to fit business needs and fill business gaps
- IT will maintain a flexible organizational structure, which will change according to business needs

Hardware and Software

- IT will strive to keep hardware and software systems modern and will monitor and manage the Computer Replacement Fund
- IT will have a “buy” versus “build” philosophy
- IT will “build” software only when mandated by business requirements
- IT will strive to review options for internal, hosted or outsourced services.
- Software applications that fit into pre-existing suites used by the City will get precedence over other best of breed software
- Purchased software will be implemented as “vanilla” as possible – modifications only as required by law, board policy, or IT Council
- IT will strive to keep purchased software systems current and supported
- IT will maintain current technology trends – be “leading” edge but not “bleeding” edge



II. Current Environment

Trends and Business Climate

Overview

The scope and intent of the City of Arvada Information Technology (IT) plan remains to guide resources and look for business technology opportunities for the coming years. The following are guiding principles to support the IT strategy:

- ❖ Use existing technologies while continually monitoring emerging technologies for consideration, when appropriate;
- ❖ Commit to open systems to enhance compatibility and maximize data exchange, utilizing Business Process Management where applicable;
- ❖ Define short and long-term Web strategy to enhance information dissemination;
- ❖ Create partnering opportunities or shared services to enhance information management and dissemination;
- ❖ Utilize Cloud Computing and Software as a Service where applicable;
- ❖ Look at future resources needed to develop, deliver and maintain effective information technology systems and processes, and the associated training.

Industry Trends

During the past several years, private and public sectors have felt the urgency to find new ways to budget for IT initiatives. As economic pressures reduce available funds, many IT organizations will focus on maintenance, ongoing operations and open source. This is not necessarily bad news. IT shops will work on completing infrastructure projects and integrating existing systems with new web-enabled front ends. Focus will be on performance, reliability, and security. Another opportunity from this is partnerships. Work with others who are interested in sharing services across agencies. It makes no sense for every local agency to create its own disparate set of systems; sharing services and information, collaborating and consolidating should be a goal.

Natural disasters in the Gulf have made us all aware of the potential for disaster. Security of systems and information will be prevalent in the IT industry. PCI regulations mandate that. Disaster recovery planning and testing are key components. Web page content that normally is informational in nature should now be reviewed as to its potential in criminal or terrorist use. Web e-commerce and e-government initiatives continue.

Data and technology needs continually grow at the City and this needs to be reviewed and consolidated where possible so that information is easily accessible and duplication of effort and resources do not occur. With the implementation of best of breed applications during the last several years we are seeing less sharing of data and an increase in the existence of “data silos”. This issue complicates cross-departmental sharing, increases overall data storage requirements, and in many cases compromises overall City data integrity. The IT Council will play a continuing role in the prioritization of new technology. A look towards new Open systems will be expanded upon to allow the city to grow technology at reasonable costs.

Information is everywhere and needs to be centrally managed for citizens through a 3-1-1 / CRM system and through data management on the back end. Or perhaps new methodologies like web 3.0 or the semantic web need further thought and planning.



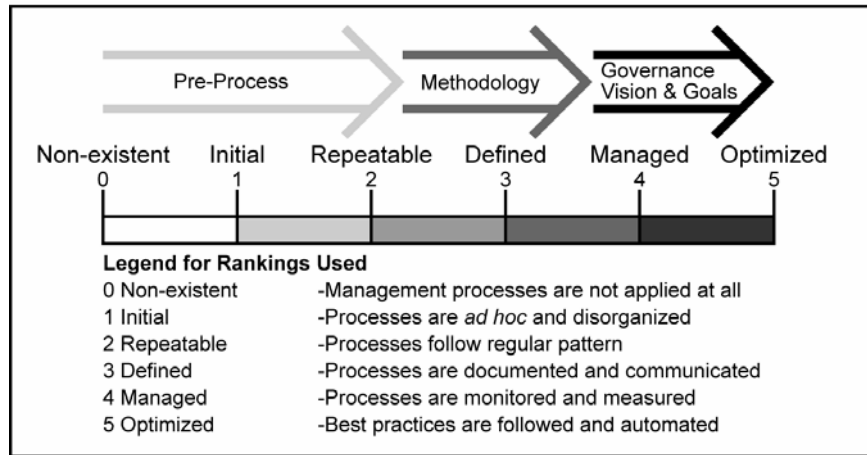
Wireless initiatives continue to grow and mature. Integration of web services over web compliant devices will continue. Web enabled devices will change from the traditional laptop to netbook to smart phone. Wireless initiatives need to be addressed inside and outside the organization. External wireless initiatives will need to be collaborative in nature.

Technology Maturity Model

The City of Arvada is maturing. We know we need to continually improve upon our own best practices and formalize high level processes and structures for IT strategic planning, prioritization, decision making and performance measurement. By having these formal processes and structures – such as IT strategy and steering groups – the organization can better:

- Align IT strategy with the business strategy
- Transform high level strategic goals into actual IT projects.
- Establish procedures for prioritizing IT projects that are understood and supported by EMT

Overtime, the City of Arvada IT Department has matured from a somewhat chaotic infrastructure to a more proactive one. In the COBIT graph below we currently are minimizing our work on level 2 (Repeatable) and solid in level 3 (Defined) processes and have moved into level 4 (Managed). As we implement ITIL v3.0 we will work towards building and keeping momentum on level 4 (Managed) infrastructure. See Appendix E for full descriptions of each level.



Source: Control Objectives for Information and related Technology (COBIT).



Potential Impacts on Business

1. **Financial Impacts:**

Technology Maintenance Costs

- The Computer Replacement Fund (CRF) needs to be continually monitored because of escalating maintenance costs. Life cycles of systems may need to be adjusted depending on organizational budget impacts. The CRF needs to be managed by all that participate in it with a special eye on technology maintenance costs. Those costs tend to escalate more than the budgeted 3% per year.

2. **Social Impacts**

Regulation and Compliance

- E-discovery or electronic discovery is a growing concern. Nearly 80% of all data created electronically is never put on paper form, making it necessary to have adequate retrieval and storage mechanisms put in place. In November of 2006 the U.S. Supreme court upheld the decision regarding civil litigation which mandates sanctions for organizations that cannot comply with electronic discovery requests. The City needs to make sure it is managing the data created by its employees properly.

Public Safety and Technology

- The Arvada Police Department (APD) is faced with ever-challenging technology needs. Cyber crime, system security, and system stability and availability are ever present issues. Information technology functions that are critical for the maintenance of basic law and order are seen as top priority systems. Existing and new police technology systems need to be utilized to keep ahead of the trend and allow the City's vision of "Continuing to Build a Great Community" to be successful.

3. **Economic Impacts**

Communitywide Broadband

- We live in a global economy. Business can now easily be done weightlessly, across the web. Over 5 million people now make a full time living on Ebay, which allows them to live, work, and play in their own community. Hundreds of iPhone apps are created to enhance and simply our lives, our connections. We need to focus our efforts on how we can entice an entity to build a broadband infrastructure in our community for long-term economic vitality and more.
- Broadband infrastructure is for everyone in Arvada. Ubiquitous broadband deployment, both wired and wireless, can be used for economic development as well as education, health, public safety, and government services. Arvada needs to pursue the opportunities that broadband brings as part of its City business plan.

4. **Technological Impacts**

System Security and Disaster Recovery

- September 11, hurricane Katrina, long-term power outages, bomb threats, computer viruses, and spyware outbreaks have made us all aware of the potential for many types of disruptions and disasters. The security and reliability of the City's computer systems and information continues to be exceedingly important. Disaster recovery planning, redundancy, and testing are key components to keeping the electronic services of the City accessible. Threats to information and processes are threats to quality and effectiveness of the organization. The City's IT Department needs to continually monitor security trends and manage the impacts of disasters. This process is never done, new issues emerge constantly.

**Business Process Management**

- A variety of business processes happen each day at the City. Some of these processes are documented, some are automated and some reside with an employee's job knowledge. These processes need to be identified and documented, and then business systems need to be implemented to automate and document many of the processes.

How prepared are City staffers to respond to questions that are specific to an address or neighborhood? If a code enforcement officer needs to make a visit to a particular household, should that officer know about any potential hazards that exist? The City has gathered very useful information we require in order to perform our services. But that information has been accumulated in informational "pockets" that are not easily shared among disparate work groups. The City needs to understand these processes and find ways to effectively manage business processes across the organization.



Resources and Expenditures

BUDGET MODELS: General Fund, Internal Service Fund, Central Service Fund

Operating Expenditures by Division

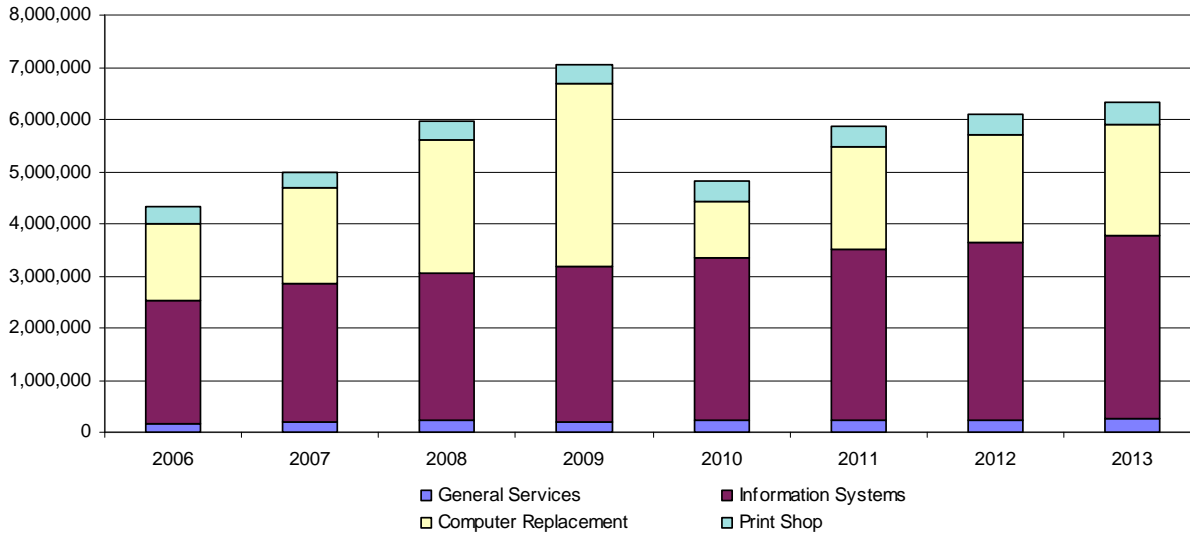
		2006 Actual	2007 Actual	2008 Revised	2009 Proposed	2010 Proposed
General Fund	General Services	\$ 151,999	\$ 191,278	\$ 214,416	\$ 211,581	\$ 222,821
	Information Systems	2,371,989	2,673,261	2,846,330	2,973,006	3,128,850
Replacement	Computer Replacement	1,462,363	1,815,969	2,535,739	3,506,156	1,080,742
Central Services	Print Shop	346,611	288,128	356,137	364,850	381,234
Total Information Technology by Division		\$ 4,332,962	\$ 4,968,636	\$ 5,952,622	\$ 7,055,593	\$ 4,813,647

Expenditures by Category

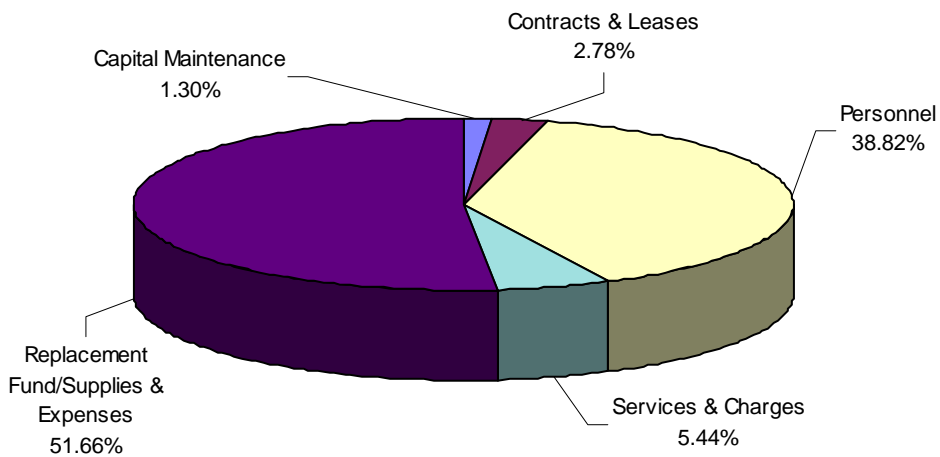
		2006 Actual	2007 Actual	2008 Revised	2009 Proposed	2010 Proposed
General Fund	Personnel	\$ 2,026,723	\$ 2,271,457	\$ 2,390,439	\$ 2,521,929	\$ 2,673,538
	Services & Charges	264,295	325,609	382,067	373,806	380,616
	Supplies & Expenses	124,048	197,457	186,994	187,606	193,233
	Contracts & Leases	69,562	43,909	50,419	50,419	51,932
	Inventory	17	-	-	-	-
	Capital Maintenance	32,882	26,107	50,827	50,827	52,352
	Capital Outlay	6,461	-	-	-	-
Replacement	Personnel	62,206	66,827	62,019	67,530	73,934
	Services & Charges	35,424	-	10,000	10,000	10,300
	Supplies & Expenses	896,997	1,305,523	2,434,389	3,399,295	966,297
	Contracts & Leases	900	-	-	-	-
	Capital Maintenance	-	-	29,331	29,331	30,211
	Capital Outlay	35,436	443,619	-	-	-
Central Services	Personnel	431,400	-	-	-	-
	Services & Charges	127,354	135,917	140,971	149,684	159,612
	Supplies & Expenses	(11)	-	-	-	-
	Contracts & Leases	49,539	44,084	57,827	57,827	59,562
	Capital Maintenance	145,098	103,015	145,620	145,620	149,989
	Capital Outlay	17,631	3,912	11,719	11,719	12,071
Total Information Technology by Category		\$ 4,332,962	\$ 4,968,636	\$ 5,952,622	\$ 7,055,593	\$ 4,813,647



Operating Expenditures by Division



2009 Operating Expenditures by Category





Staffing – Current and Proposed

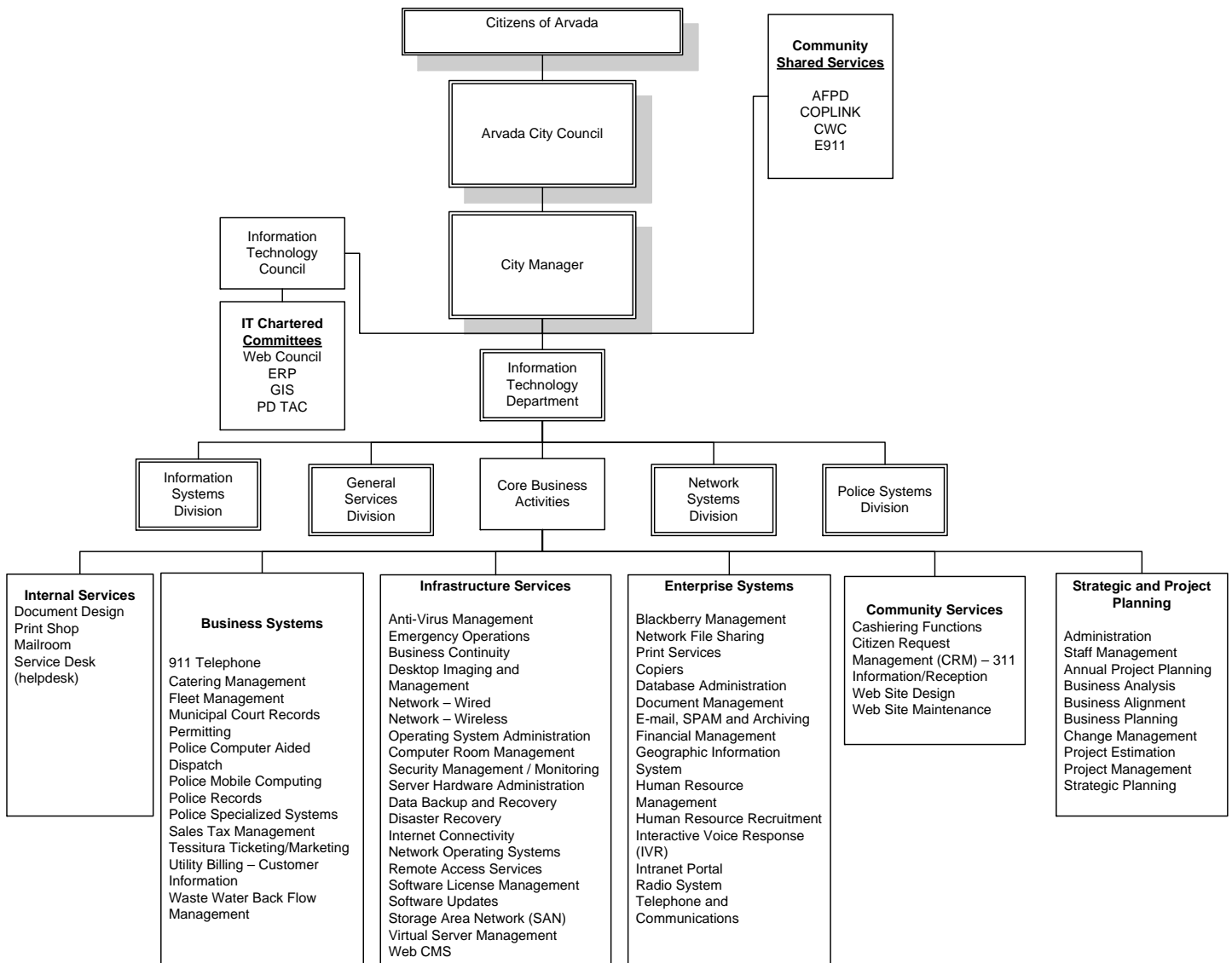
Information Technology Employee Positions

	2008	2009	2010	2011	2012
Administrative Supervisor	1.00	1.00	1.00	1.00	1.00
Communications Specialist	0.00	0.00	0.00	0.00	0.00
Computer Support Specialist	2.00	2.00	2.00	2.00	2.00
Director of Information Technology	1.00	1.00	1.00	1.00	1.00
FMS Project Manager	0.00	0.00	0.00	0.00	0.00
Help Desk Technician	0.00	0.00	0.00	0.00	0.00
Information Systems Manager	1.00	1.00	1.00	1.00	1.00
Jr. Database Administrator	1.00	1.00	1.00	1.00	1.00
LAN Analyst	0.00	0.00	0.00	0.00	0.00
Network Administrator	1.00	1.00	1.00	1.00	1.00
Network Systems Manager	1.00	1.00	1.00	1.00	1.00
Oracle Software Administrator	1.00	1.00	1.00	1.00	1.00
Police Systems Analyst	1.00	1.00	1.00	1.00	1.00
Police Systems Manager	1.00	1.00	1.00	1.00	1.00
Project Administrator	1.00	1.00	1.00	1.00	1.00
Senior Database Administrator	1.00	1.00	1.00	1.00	1.00
Senior Network Administrator	1.00	1.00	1.00	1.00	1.00
System Support Specialist	0.00	0.00	0.00	0.00	0.00
Systems Administrator	3.00	3.00	3.00	3.00	3.00
Technical Systems Project Manager	1.00	1.00	1.00	1.00	1.00
Telecommunications Administrator	1.00	1.00	1.00	1.00	1.00
Web Master	0.00	0.00	0.00	0.00	0.00
Web Systems Administrator	1.00	1.00	1.00	1.00	1.00
Web Systems Project Manager	1.00	1.00	1.00	1.00	1.00
Business Analyst	0.00	0.00	0.00	1.00	2.00
Service Desk Manager	1.00	1.00	1.00	1.00	1.00
Total General Fund Employees	23.00	23.00	23.00	24.00	25.00
Computer Support Specialist	1.00	1.00	1.00	1.00	1.00
Total Replacement Fund Employees	1.00	1.00	1.00	1.00	1.00
Creative Services Designer	1.00	1.00	1.00	1.00	1.00
Printing Technician	1.00	1.00	1.00	1.00	1.00
Total Maintenance Fund Employees	2.00	2.00	2.00	2.00	2.00
Services Technician	1.00	1.00	1.00	1.00	1.00
Police Specialized Systems Administrator	1.00	1.00	1.00	1.00	1.00
Total Police Tax Increment Fund Employees	2.00	2.00	2.00	2.00	2.00
Total Information Technology Employees	28.00	28.00	28.00	29.00	30.00



IT Service Chart

PURPOSE: To create and maintain the computer infrastructure including hardware, software and telecommunications equipment necessary to support needs of the City of Arvada. Additionally, the Information Technology Department operates all internal mail, print and main reception services for the City.



The I.T. Department is comprised of several divisions of responsibility. Within these divisions the core business activities overlap boundaries. Divisions in IT collaborate in order to provide the best possible service to the organization and to the community. Programs and projects are divided amongst core business activities.



CORE BUSINESS ACTIVITIES

IT has six categories for core business activities, each product or service delivered by the IT Department fits underneath one of these categories. They are described as follows:

1. **Internal Services:** These services are used inside the Municipal Corporation such as Print Shop and mail room management
2. **Business Systems:** These services provide specific value to a given department. Examples include the Police Intergraph System, the Utility Billing system, the Tessitura ticketing system and the Courts system.
3. **Infrastructure:** These items are critical to the foundation of technology used around the city and include items such as the routers, switches, wireless AP's, the data cabling, UPS, Storage Area Network (SAN), telecommunications and disaster recovery sites.
4. **Enterprise Systems:** These systems are utilized by the majority of the organization. These include the Oracle Financial System, the Geographical Information System (GIS), desktop and laptop workstations and operating systems, departmental copiers
5. **Community Systems:** These systems are used primarily by our citizens or community partners. These systems include the City's web sites, Citizen Request Management (CRM), 3-1-1 information and e-government payment systems.
6. **Strategic and Project Planning:** Work and processes to manage the resources of the department, project management and budget planning.

The Information Technology Department has adopted methodologies from Information Technology Infrastructure Library (ITIL) and Information Technology Service Management (ITSM) and we have implemented both a rigorous change management practice and service catalogs based on core business activities. The complete service catalog is below:

Information Technology Council

Purpose

The Information Technology Council (IT Council) oversees the information technology investment for the City of Arvada. Members of the IT Council are appointed by the IT Director and are accountable to the Executive Management Team (EMT). The council will:

1. Provide strategic leadership for IT operations of the City of Arvada through the alignment of IT strategic objectives and activities with corporate strategic objectives and processes.
2. Prioritize IT investment initiatives and resolve resource allocation issues based on project prioritization.
3. Ensure open communications between the IT department and the other functional units of the City of Arvada so as to promote collaborative planning.

**Roles**

IT Managers and Director - Oversee the development of the Infrastructure Plan and ensure that it supports the Architecture Charter. Serve as members on IT Council.

IT Council members – Create strategy, policy and standards regarding technology project selection, prioritization and implementation. Work on funding, resources and populate IT Chartered Committees

Members of the council include:

- The Deputy City Manager or a designated representative of the City Manager’s office.
- The Director of Information Technology
- The Director of Human Resources
- The Director of Finance
- Additional line managers of key departments
 - Arvada Center
 - Police
 - Public Works
- Ad hoc members: experts on particular business process or technologies
 - Geo Data Services
 - Enterprise Service



How projects come to the IT Council

- The council shall review all proposals for IT investments with the following criteria and rating scales:

- **Organizational Impact**

▪	<u>Low</u>	1	2	3	4	5	<u>High</u>	
	One Division				Entire Organization			

- **Project Resource Hours**

▪	<u>Low</u>	1	2	3	4	5	<u>High</u>	
	Less than 1 FTE				Greater than 480 FTE hours			

- **Projected costs**

▪	<u>Low</u>	1	2	3	4	5	<u>High</u>	
	Less than \$3,000				Greater than \$50,000			

- **IT Impact**

▪	<u>Low</u>	1	2	3	4	5	<u>High</u>	
	Vendor only support				1 or more IT FTE required			

- **Mandated by Law**

▪	<u>Low</u>	1	2	3	4	5	<u>High</u>	
	No Mandates				Mandatory			

TOTAL Possible – 25

- Overall scores of 18 or higher will be reviewed by the IT Council
- This includes proposals from within IT services as well as proposals from other departments that have a significant IT component.

Subcommittees of IT Council

Establish cross-discipline chartered committees in order to further investigate and provide technology recommendations back to the IT Council.

- Web Council
- Oracle Steering Committee
- Police Department Technology Advisory Committee
- GIS



III. Department Strengths and Awards

Project Management

History

The City of Arvada conducted a study in 2005 to determine why an important project at the City failed. The study recommended that the City adopt a standard project methodology to facilitate better communication and ensure best practices were used in running City projects. The IT department took a leadership role in the study and later in the project to build the standard project methodology.

Standard Methodology

In 2007 the IT department led the effort to develop a standard project methodology that is used for all City projects. The standard methodology adopted by the City of Arvada includes:

- Standard Project Templates required for all City Project including: Project Charter, Communication Plan, Project Status Report, and Project Schedule
- Additional Standard Project Templates available to project managers but not required on every project
- City wide training on the Standard Project Methodology
- Centralized dashboard to report on critical projects to executive management

Project Priorities in the IT Plan

Each project in the IT Plan has been assigned a rating to reflect its overall priority to assist with decision-making and resource allocation. Each project has been assigned one of three ratings - essential, very desirable, or desirable - or a designation that the project is currently unrated and is pending.

Generally, the highest rating of “essential” has been applied to projects that are either:

- Needed to meet legal requirements or State or federal mandates;
- High organizational impact and effectiveness across all departments;
- Project Implementation Resources are available or cannot be deferred without the loss of substantial funding;
- Business partners are willing and have resources to implement new business tools;
- Impact to IT operations and service management is low;
- Required for economic growth and development.

Other projects have been rated as “very desirable” or “desirable” depending upon the extent and degree of benefit provided. Generally, projects that maintain or improve a current system’s functionality are assigned priority over new projects that provide new system capabilities.

In addition, each project in the Information Technology Plan is linked with the City’s Strategic Plan element that most closely represents what the project is supporting. Two categories are present:

1. Continuing to Build a Great Community
2. Continuing to Build a Great Organization

Sub categories are used to separate the projects and their impact, these include:

1. Allocating Resources to the Right Stuff
2. Excellent Personal Service
3. Partnerships



Partnerships

- IGA – Colorado Wireless Communities (CWC) – This is a group of 10 municipalities or counties that have come together to encourage a public private partnership to build a ubiquitous WiFi network.
- GSSC – Government Shared Services Council – A sub-committee of CGAIT – Colorado Government Association of Information Technology. Formed to explore and share technology resources across agencies. Arvada participates on several workgroups and the IT Director is Vice-Chair.
- IGA with the City of Westminster and AFPD – This IGA allows all 3 entities the opportunity for a shared/interoperable 800Mhz radio system.

Software as a Service and Shared Services

The City of Arvada is currently using Software as a Service (SaaS) for a number of business processes including CRM and HR recruiting. We mention these two services because we have had very different results from each of them. We have learned that SaaS is a viable and often cost effective means to deliver technology but it requires a thorough review of the provider. Some companies are well equipped to deliver and others not so much.

We have started to see our application portfolio being a blend of off the shelf applications managed internally, SaaS applications where it makes sense and government specialty applications being delivered through a shared services model. Over time we expect to embrace the SaaS and shared services model more aggressively, when it is the right decision for the business. Our production SaaS environment includes our CRM system (public cloud), COPLINK (partner cloud), HRSmart (public cloud), Land Development Code (Public Cloud) and ACE Project (public cloud).

In addition to the typical SaaS model, the City of Arvada is a founding member of the Government Shared Services Council (GSSC). This Council is comprised of government entities in the State of Colorado. The GSSC is looking at ways to share the burden of software application development and maintenance with the intent of driving down IT costs. Current applications that are being developed includes an Assessor System, COPLINK, GIS, and 3-1-1/CRM.

Service Management

History

In 2007 the City of Arvada IT Department studied the impact of implementing a service management framework (ITIL V3) within the department. The study concluded that the IT department could improve efficiency and align IT services with business needs implementing the ITIL framework. In 2008 all IT staff that would utilize the ITIL framework attended ITIL v3.0 foundations training and certification testing.

Service Catalog

The City of Arvada IT department built a service catalog using the ITIL v3.0 framework to document:

- What services the IT department delivers to customers



- SLA's and performance measures related to each service
- How to contact IT for support for a specific service
- Maintenance windows for each service
- Responsibilities of the customer for the service
- Support hours for each service
- Funding for each service

The service catalog has improved communication between the City of Arvada IT Department and IT business partners. The IT business partners better understand the value IT brings to the organization and what level of support they can expect for each service. The service catalog also provides a common reference point for changes to current services or impact of adding new services.

See Appendix C for Service Catalog overview and example of a Service Catalog entry.

Change Management

The City of Arvada IT department recognized the need to better manage changes to the IT infrastructure and how changes impacted services that the department's customers rely on. In 2008 a change management process was implemented. Highlights of the Change Management process are:

- Major/Minor Changes must be approved by the IT Change Manager and the Change Advisory Board (CAB) comprised of experts from the business community
- Pre-approved changes can be implemented without review of the change manager
- Notification of changes to IT staff and the CAB is required for all changes

The change management process has significantly increased the level of communication and planning before a change is implemented.

Open Source

The City of Arvada first considered open source technology in 2003 when faced with a financial crunch and the need to upgrade the infrastructure supporting our Oracle ERP. We were one of the first organizations to run our ERP on an Intel platform running Redhat Linux. This was certainly a risky option but circumstances pushed us to the decision and it has been a huge success. Not only have we driven down our operating costs by close to \$100,000 per year we have seen considerable increases in performance of our systems and have been able to build test, development and disaster recovery environments that match our production environment.

The success of this effort opened our eyes to the benefits of open source technology and since that time we have fully embraced it for our web systems, developing all of our web sites using Linux, Apache, MYSQL and PHP (LAMP).

Today we consider open source options as a standard practice and we are quite comfortable selecting them even for our most critical applications.



Performance Measures

PERFORMANCE MEASURES – Information Systems

- Maintain computer system availability at 98% during normal business hours
- Maintain Telephone system availability at 99% during normal business hours
- Monitor employee participation in technical and personal development training annually to be 90% or better.

PERFORMANCE MEASURES – Network Systems

- Maintain 99.98% access to network for file access and printing
- Provide 99.98% access to Internet for internal/external Web access and internet e-mail
- Resolve 75% or better of helpdesk calls at first contact
- Keep employee participation in technical and personal development training at 90% or better

PERFORMANCE MEASURES – Police Systems

- Maintain 99.99% functionality for Computer Aided Dispatch System, Police Radio System, and E911 phone system.
- Provide a 99% availability of Police Records Management System to all Police Department personnel.
- Provide 96% up time for Police Department Mobile Computer System.
- Assure that 95% of the area of the City provides wireless connectivity for the Police Department Mobile Computers.

PERFORMANCE MEASURES – General Services

- Turn around all requests for print in less than 5 business days with 90% of work being performed within 24 hours
- Be the low cost provider for all duplication and design services work
- Maintain at 99% customer satisfaction rating in all areas
- Provide highly available convenience copiers with 99% uptime

IT Metrics

Highlights of metrics tracked by the City of Arvada IT Department:

Service Desk Tickets

The Service Desk tickets include all incidents and problem tickets.

- 2007 – 6,207 tickets were completed successfully
- 2008 – 8,079 tickets were completed successfully
- 2009 – 4,890 tickets were completed successfully (from January through August 21st)



IT Resource Hours

- Through July 2009 - IT Staff logged 28,448 hours towards system support and IT projects (not including print shop and front desk)
- 60% of time was logged to system support and remaining 40% to projects

IT Staff and Budget Comparisons

- IT budget as a percentage of total City budget = 3.64%
- IT staff as a percentage of total City staff = 2.09%
- Rate of IT turnover = 1.67% over a five year period

CRM – Customer Relationship Management System

FAQs and Service Requests from Ask Arvada

- Total FAQ Views 2008 – 14,291
- Total Service Requests resolved 2008 – 7964

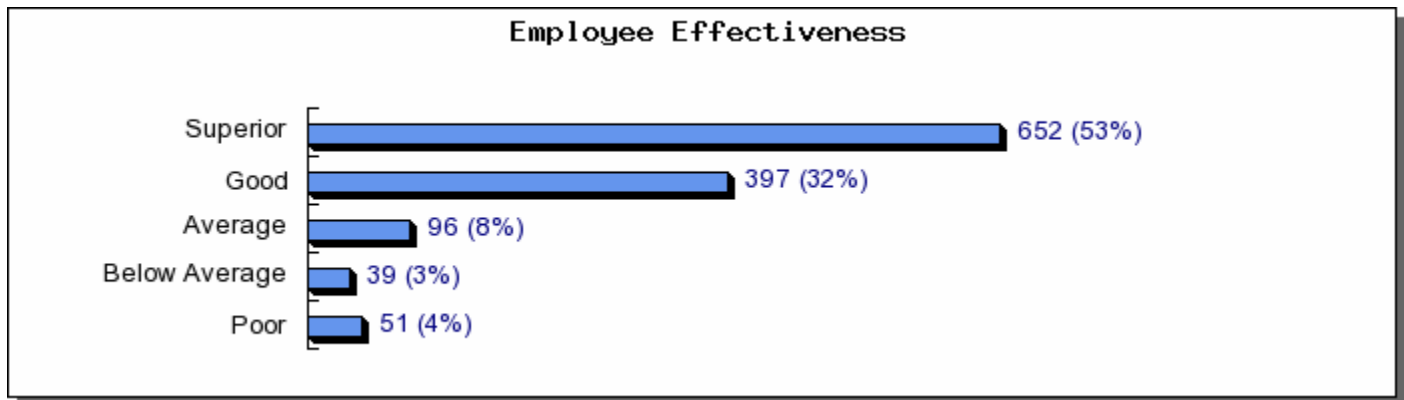
CRM Survey Results

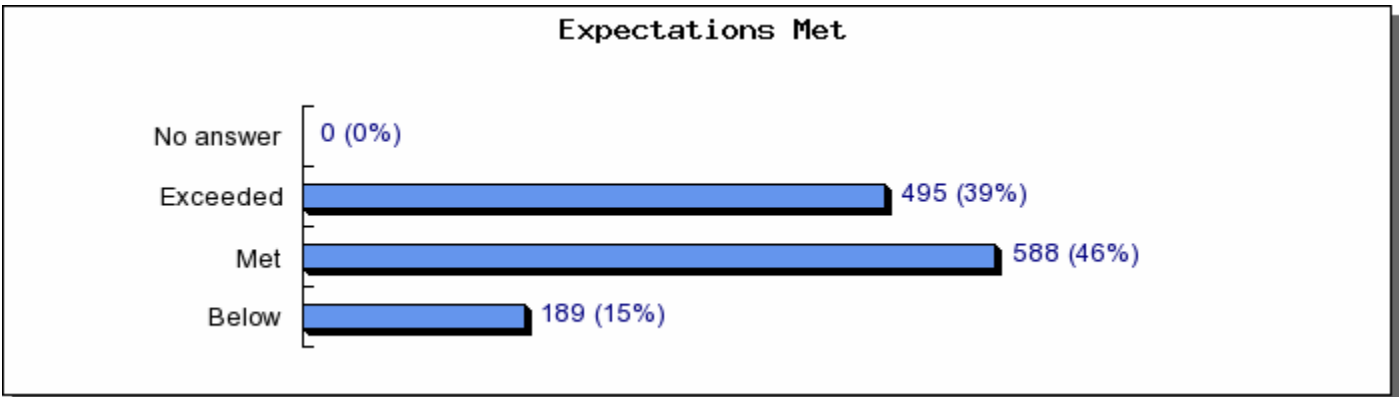
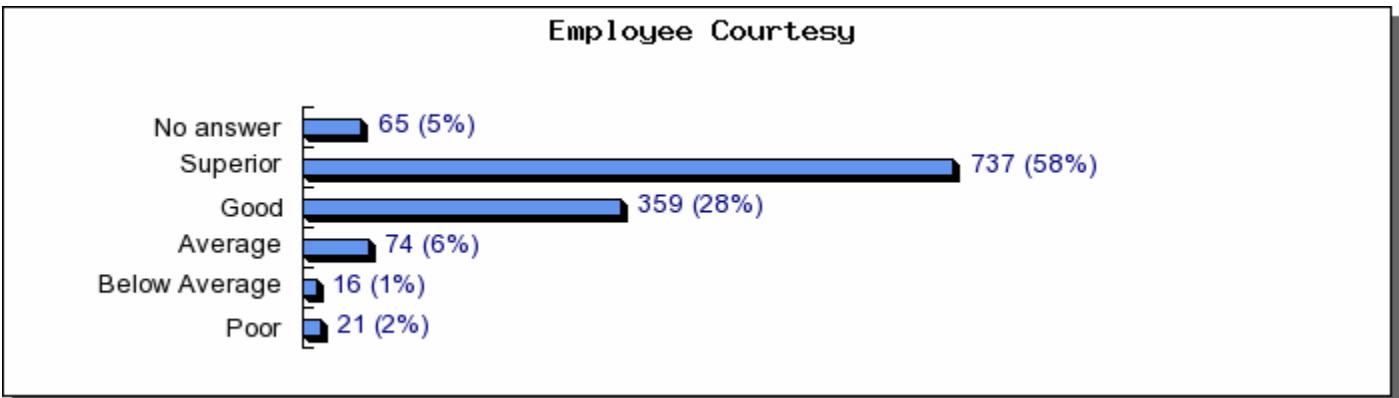
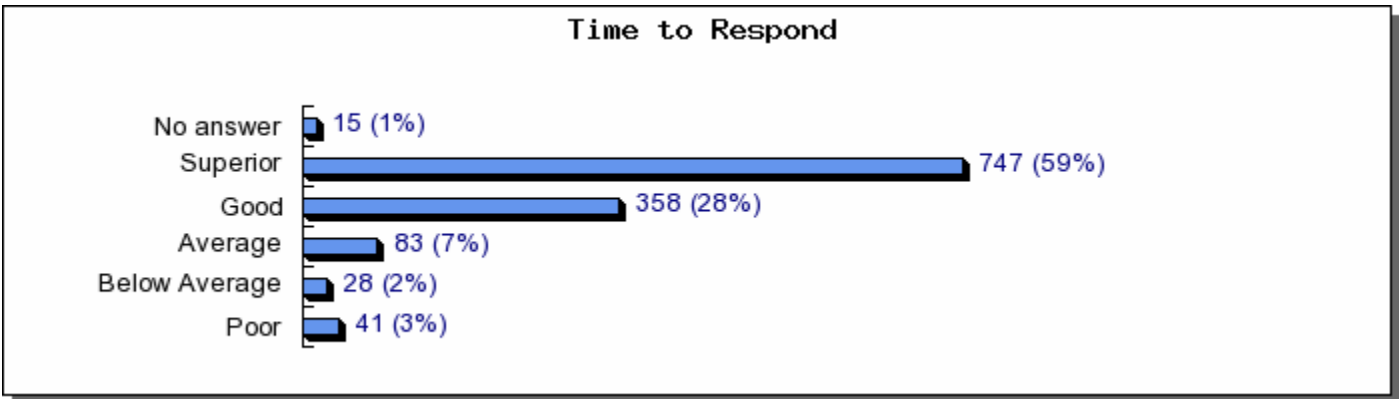
- Employee Effectiveness Good or Superior = 85%
- Time to Respond Good or Superior = 87%
- Employee Courtesy Good or Superior = 87%
- Expectations met or exceeded = 85%

CRM Surveys – 2008 and 2009 to date

Customer Satisfaction Survey Results

1276 Surveys filled out this time period. 7964 Requests closed this time period with 3429 surveys sent.







Experienced Staff

The process utilized in the formulation of our strategic plan incorporated many of the concepts outlined by Jim Collins in his book “*Good to Great*.”

One of the first concepts introduced in the book is “*first who, then what*.” The Arvada Information Technology Department has a long tradition of retaining, selecting, hiring and training some of the best employees available in the workforce. We will continue to make this a priority. The Information Technology Department is a service related business and the quality of services we provide is dependant on the quality of our employee body.

Ultimately we are all in the “people” business and as such the employees are our most valued resource. Because the employee body has not changed much over the years we have been able to keep experienced employees busy working on day to day issues as well as tackling newer and more complex projects. Our low turnover rate allows our organization to excel and provide great technology married with great service.

City of Arvada Termination Report

Department	Turnover	FTE's	Turnover Rate	Year
Information Technology	0	28	0.00%	2009
	0	28	0.00%	2008
	1	25	4.00%	2007
	0	25	0.00%	2006
	1	23	4.35%	2005
	0	22	0.00%	2004

5 year Average

1.67%

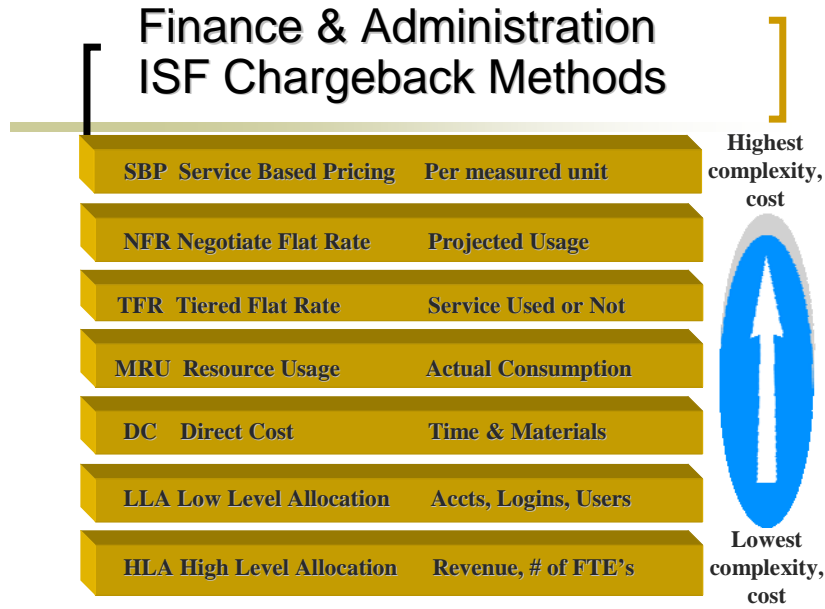
Computer Replacement Fund – Asset Management

The City of Arvada has had a computer replacement fund in place since 1999. Because of this model we don’t need to compete each budget cycle for essential technology against the other needs of the organization. We have a full inventory and chargeback system in place to safeguard our technology’s future. The fund charges back on individual inventories or on divisional systems. Our methods are based on (LLA) Low Level Allocation and (HLA) High Level Allocation.

- Unit Cost of Laptops per year – 4 Year life
- Unit Cost of desktop ,Monitor, UPS – 4 Year life
- Unit Cost of MDC for PD – 4 Year life
- Unit Cost of Laser Printers- replaced upon failure
- Desktop PC Software, Office other software
- Cost per PC for Network Hardware
- Cost per PC for Network software
- Fileservers Per PC in replacement fund
- Price per users for SPAM/Zen
- Price per GroupWise Users
- Price per Netware Users
- Price per FTE Finance system
- Price per FTE Phone System



Our goal is to get to Service Based Pricing:



Source unknown - Jefferson County Colorado provided this graphic for a presentation done by Jeffco, Arvada and Ft Collins for CGAIT relating to use of Internal Service Funds



Strengths, Weaknesses, Opportunities and Threats

<p style="text-align: center;"><u>STRENGTHS</u></p> <ul style="list-style-type: none"> • Smart, dedicated staff • Skilled, motivated staff • Customer oriented focus • Teamwork, cohesive group • Project Implementation success • Centralized staff and resources • Disaster Recovery, data backup • IT Standards • Network speed and reliability • ITIL v3.0 Implementation 	<p style="text-align: center;"><u>WEAKNESSES</u></p> <ul style="list-style-type: none"> • Resource limitation to meet workload • Need more back-up and cross training • Lack of resources dedicated to fully aligning the needs of each internal department • Technical competence capacity
<p style="text-align: center;"><u>OPPORTUNITIES</u></p> <ul style="list-style-type: none"> • Develop new services to benefit customers and citizens – 3-1-1, web and others • Wireless applications for field workers • Analyze business processes / consolidate systems • Telecomm cost reductions • Shared Services with internal and external partners • Software as a Service SaaS • Social Media and Transparency 	<p style="text-align: center;"><u>THREATS</u></p> <ul style="list-style-type: none"> • E-discovery / technology litigation • Technology security/PCI • Staff burnout from heavy workload • Potential resistance to technology standardization as a tool to drive down costs • Loss of resources in the next couple of years due to retirement • Under utilization of current resources.



Awards and Recognitions

The City of Arvada IT organization prides itself on providing great technology and great service to our internal organization and the community which we serve. Like a good umpire in baseball, an IT department is doing well when nobody notices they are there, and we do enjoy the silence. That being said, it is nice from time to time to be recognized for your efforts, and over the years our team has been honored from time to time for the hard work they put in on a daily basis. Below is a partial listing of the recognition our team has received.



In 2008 the Alliance for Innovation recognized the City of Arvada as a recipient of it's "Outstanding Achievement in Innovation" award for our CRM system known as "Ask Arvada."



The Center for Digital Government has honored the City of Arvada 6 times since 2002 as a top ten digital city including a number four ranking in 2008.



The Center for Digital Government awarded the City of Arvada with its best of breed distinction for our Intranet in 2002.



In 2006 The National Association of Telecommunications Officers and Advisors (NATOA) selected the City of Arvada as its third place finisher for government access television station websites.



The Colorado Government Association of IT Directors (CGAIT) honored the City of Arvada with the "CGAIT Cup" award in the fall of 2008 for the best video promoting your IT organization.



Since 2000 IT staff members have been designated City of Arvada employee of the month seven times and in 2002 we had a member of our team recognized as the City of Arvada employee of the year.



IT Staff received an Innovation and Achievement Award for "Standardization in Outfitting Police Cruisers". This project entailed an integrated retrofit of radio/mobile computing/GPS/emergency lighting in all city police vehicles.



IT Staff and the Police Chief were selected at annual International Chiefs of Police Association technology conference for their project detailing steps that were taken to organize and deploy an innovative multi-jurisdictional Law Enforcement information sharing system, COPLINK.



IV. IT Focus

Overview

The IT department recognizes that technology and how people use technology are constantly changing. To keep pace with constant change and still be able to meet the City's business needs in an effective and efficient manner the department has to be willing to adapt its methodologies and processes without compromising the department's vision, mission, and values. The following focus areas have been identified by the IT leadership team as critical to the future success of the department in the midst of rapid change.

These initiatives are separated in the business plan for the following reasons:

- The leadership team has identified the focus areas as critical to the success of the department and separating the initiatives from other projects in the business plan provides the focus and attention required for the initiatives to be successful
- The initiatives will significantly change "the way we do business" and will therefore be difficult to implement. The importance of the initiatives to the organization's success will need to be consistently communicated to the department staff to help overcome the natural resistance to change of this magnitude. Separating these initiatives from other projects will help clarify why we are making the changes and the importance of these changes to the department's success
- The initiatives will not be fully implemented in one year and will require a multiyear focus to be successful. Separating the initiatives in the business plan will facilitate an annual review of the initiatives and allow for required adjustments to the initiatives to be planned and implemented as required

Demand Management

There are always more requests for technology projects than the IT department has resources to implement. The IT department has a process to review and prioritize projects but with increased demands on the department's resources and reduction of budgets is requiring the department to focus on improving and expanding the project prioritization process. In addition, activities related to incident and problem management traditionally have not been prioritized and coordinated in a formal process. The IT department's leadership team has identified that managing the demand on IT resources in an efficient and effective manner is critical to the future success of the department.

The following active and future projects are related to implementing improvements in demand management:

- IT Council
- Internal Project Approval Process
- Change Management (ITIL)
- Service Catalog (ITIL)
- Problem Management (ITIL)
- Incident Management (ITIL)
- Standardization of Web Architecture
- Leadership Training



Aligning IT Resources

The IT department has traditionally been very successful at supporting and maintaining the systems and technology the City depends on. As technology changes, business needs become more complex, and the City is requiring more integration between systems it is becoming increasingly difficult to maintain the current systems and meet the increasing demand for new IT services.

The IT department is shifting its focus from a pure operational management of deployed services to a more strategic view of the entire service life cycle by implementing ITIL Version 3 processes.

Current and future ITIL Projects:

- ITIL Version 3 training and certification for all IT staff
- Reorganization of the Support Desk
- Change Management
- Service Catalog
- Incident Management
- Problem Management
- Installation of Configuration Management Database (CMDB)



V. IT Initiatives

Core Business Activities

Systems, Action Plans and Utilized Resources for 2009-2013

The I.T. Department is comprised of several divisions of responsibility. Within these divisions the core business activities overlap boundaries. Divisions in IT collaborate in order to provide the best possible service to the organization and to the community. Programs and projects are divided amongst core business activities. The core business activities include:

- Infrastructure Systems
- Business Systems
- Enterprise Systems
- Community Systems
- Internal Services
- Strategic and Project Planning

Infrastructure Systems

Network

A complex structure of network hardware and software is used at the City of Arvada to provide local, Internet and Wide area network connectivity, as well as, file and print services.

Novell servers are used for network directory services, network management, e-mail services and virus protection. Microsoft Windows and Linux servers are used for applications. Wide area network services are provided to all City buildings through a combination of fiber and copper telecom lines and line-of-sight wireless connections.

Implementing enhanced applications and e-business systems place significant demands on the internal network. A Storage Area Network (SAN) was installed in 2001 and replaced in 2007. These new solutions provide significant storage to meet the needs for the organization plus offer streamlined administration, scalability and are necessary for a reliable and efficient virtualization infrastructure. They also offer increased the fault tolerance for most city applications.

Initiative 1 – Expand Wireless Network for City Buildings

1. **Description:**

Many City departments have recognized the need for secure wireless access to the City's network to improve efficiency in the work environment. There is also a need for wireless internet outside of the City network for citizens and vendor's visiting City offices. This project is 50% complete and provides secure wireless access for City staff to the City's network at the most populated buildings. In addition these sites also offer internet access to visitor's buildings.



2. Project Benefit:

Increase efficiency of City Staff and offer additional service to visitors of City buildings.

3. Potential Barriers and Mitigation Strategy:

More Funding will be needed to fully expand wireless to every city building

4. Economic Engine:

Wireless equipment was purchased in 2007. The implementation of the project will not take additional capital.

5. Staffing Impact:

Time will be needed from the following IT positions:

- Project Manager
- Network Administrator
- Testers

6. Organizational Impact:

Training on proper use of network for interested departments
 Instructions for use of internet for City visitors
 IT Service Desk support

7. Key Components and Partnerships:

- Executive Management Team
- Middle Management Team
- Police Department
- Finance Department
- Public Works

8. Implementation Strategy:

- Design Network
- Build Network
- Test Network
- Develop training
- Final Rollout

9. Suggested Time Frame for Development:

4th quarter 2009

10. Performance Measures/Key Results:

Stable access for City staff to City applications on network
 Reliable access to internet for visitor's of city offices

Infrastructure Systems Action Plan (2009 to 2013)

- Upgrade or Replace Novell Operating system and directory services to allow for single sign on capabilities (as needed)
- Upgrade Novell GroupWise e-mail to allow for wireless and telecommuting initiatives (as needed)
- Replace server hardware as outlined in the computer replacement fund (annually)

Relationship to City Plan:

Continuing to Build a Great Community
Allocating Resources to the Right Stuff

City Goal:

**Economic
 Vitality**





- Assess and enhance disaster recovery needs (annually)
- IDM “Identity Management” , Single Sign-on, Biometrics (2011)
- Continue to expand the SAN to keep up with growing storage needs (Ongoing)
- RFP for additional network support
- Implement self service password software
- Continually improve web security
- Continue to expand on the use of virtualization at the server level and the desktop level.

Resources –

Network Division staff, Information Systems Staff, Fund 52 – Computer Replacement Fund, Fund 01- General Fund

PC / Desktop

The IT Department supports approximately 600 desktop workstations, approximately 100 laptops and over 300 software titles throughout the City of Arvada. Connectivity support is the main goal.

Initial PC hardware and software standards were implemented in 1996. An Internal service fund was also created to allow for the standardization and timely replacement of networked PCs, printers, laptops, servers, LAN/WAN equipment and software.

<u>Hardware:</u>	<u>Latest processor with 1gb memory</u>
<u>Software:</u>	<u>MS Windows XP SP 2(desktop operating system)</u>
	<u>Novell GroupWise (e-mail, collaboration, and scheduling)</u>
	<u>MS Office 2003 (Word, Excel, Access, and PowerPoint)</u>
	<u>MS Internet Explorer (web browser) Mozilla (web browser)</u>

Initiative 2 – Workstation Virtualization

1. **Description:**

Continue to evaluate what and who are good candidates for desktop OS streaming and VDI.

2. **Project Benefit:**

Reduce IT support costs by utilizing a tested and un-modifiable standard OS image and expand on self service streaming of applications.

3. **Potential Barriers and Mitigation Strategy:**

Staff resistance to standard a configuration is a concern. To mitigate we will provide an overview for all City staff on standard image, streaming applications, and other changes with new workstations. Provide additional support and seek feedback shortly after each installation. One significant barrier would be spending too much time trying to make this strategy function the same way as the current computer setup. That is making each computer personal to each user. The functionality of the applications will be the same.

Relationship to City Plan:

Continuing to Build a Great Community
Allocating Resources to the Right Stuff

City Goal:

Environmental Sustainability



4. **Economic Engine:**

Funding provided by Computer Replacement fund.

Rev August 2009

**5. Staffing Impact:**

None

6. Organizational Impact:

Minimal, the change will be psychological based on users having a business desktop rather than a personal computer

7. Key Components and Partnerships:

SAN, Streaming servers, and Partnerships with other entities working on the same thing.

8. Implementation Strategy:

Inventory and identify all like business needs and functions to help determine images and usage groups

Design Standard Images

Design streaming applications

Identify test group

Test installation

Design Implementation plan

Install workstations

9. Suggested Time Frame for Development:

Complete project by 4th quarter 2010

10. Performance Measures/Key Results:

Evaluate the number of calls from customers using this technology

Try for 50% of the computers and users on this technology

PC / Desktop Action Plan (2009 - 2013)

- Deploy and patch desktop software annually as needed (e.g. MS Windows, Office) (annually)
- Continue to provide technical and end-user support for PC desktop systems and software (on-going)
- Monitor marketplace for trends and adjust plans accordingly.
- Replace or upgrade Service Desk software with ITIL compliant system (2010)
- Encrypt Laptop hard drives (2009)
- Deploy mobile system for remote building inspections (2009)
- Upgrade desktop OS and productivity suite (2010)
- Replace all desktop hardware (2012)
- Continue Desktop Virtualization to 50% (2011)

Resources –

Network Division staff, Information Systems Division Staff, Police Systems Division Staff, Fund 52 – Computer Replacement Fund, Fund 01- General Fund

Telecommunications

A fiber optic-based circuit was deployed January 2001 to increase bandwidth and reliability. A Nortel phone system was installed as a traditional PBX system but will allow for future capability with Voice over IP (VoIP). The new PBX switch can allow VoIP cards to be installed and VoIP phones can be installed at the desktop.



Action Plan (2009 – 2013)

- Complete needs assessment, request, acquisition, and installation of new phone switch, new dialing plan and compatible voice mail system (2009).
- Upgrade Call Pilot with web capabilities
- Deploy VoIP solutions for building expansions
- Prepare for VoIP replacement system (2010)
- Implement VoIP system (2011)

Resources –

Network Division staff, Information Systems Division staff, Fund 52 – Computer Replacement Fund, Fund 01- General Fund

Wireless Initiatives

Wireless initiatives continue to grow and mature. Integration of web services over web compliant devices will continue. Web enabled devices will change from the traditional laptop and PDA to cellular phones. External wireless initiatives will need to be collaborative in nature.

Action Plan (2009 - 2013)

- Monitor Legislative Action (annually)
- Work with partner communities (Colorado Wireless Communities) to attract a public-private partner to build a regional WiFi network be re-releasing an RFI for potential Grant Funding (2009)
- Work with internal customers on future field use initiatives (2008-2010)

Resources –

IT Director, Network Division staff, Information Systems Division Staff, Fund 01- General Fund

Business Systems

Police - Computer Aided Dispatch and Records Management IRA UPDATE

This system allows for automation of Dispatching of 911 calls and for records management in the Police Department. A GIS based system has been procured and installed. Plans are to convert data from the current PRC system to this new Intergraph system, called ISYS. PD staff coordinates this project, data conversion and system administration actions will be needed from IT.

Action Plan (2009 – 2013)

- Review Disaster Recovery Plan (annually)
- Cellular Network Upgrade for Patrol Cars
- RFP for new radio service provider
- Install Animal Records management software
- Digital Imaging Storage for Crime Lab
- Upgrade Police Computer Aided Dispatch and Record Management System as needed (annually)
- Beta test voice recognition software in PD records with Dictaphone (2009)
- Mobile Video in Vehicles (2009)
- Mobile license plate reading technology (2009)

Resources –

Police Division staff, Network Systems Division Staff, Fund 52 – Computer Replacement Fund, Fund 01- General Fund, Fund 22- PD Tax



Ticketing, Education and Development System - Arvada Center for the Arts and Humanities

This system allows the Arvada Center to sell tickets to events, keep track of patrons and donors, cultivate information relating to marketing efforts and schedules education related courses. The Tessitura product was procured and implemented in 2003.

Action Plan (2009 - 2013)

- Upgrade twice annually
- Upgrade web API for web payment system (2009)
- Web site revamp (2009)
- Online donation system (2009)
- Explore software as a Service model for this application (2010)
- Explore a shared service model for this application (2010)

Resources –

Information Systems Division staff, Network Systems Staff, Police Systems Staff Fund 52 – Computer Replacement Fund, Fund 08 – Arvada Center Fund

Revenue Collection Initiatives

Implementation of a new Utility Billing System
 Implementation of a new Sales Tax System

Action Plan (2009 - 2013)

- Implement Disaster Recovery Site and test (2008)
- Implement new Utility Billing System, IVR and Web (2009)
- Add additional functionality, such as Water Budgets etc (2009)
- Replace existing Sales tax system (2010)
- Upgrade Web Payment and Online Bill functionality (2010)

Resources –

Information Systems Division staff, Network Division staff, Fund 52 – Computer Replacement Fund, Fund 79 – Water Fund

Enterprise Systems

Financial Management and Budget Preparation

Oracle Financials ERP software was deployed in 1999 for financial management and budget preparation. This software provides enhanced functionality in general accounting, payables, purchase order and budgeting.

Initiative 1 – Oracle E-Business Suite 12i upgrade

1. **Description:**

Upgrade E-Business suite software to release 12i



2. **Project Benefit:**

Keep version current to avoid additional support costs for unsupported versions. Reduce internal support costs by staying on supported versions of software. Create bridge to the Oracle Fusion application

3. **Potential Barriers and Mitigation Strategy:**

Training for all Oracle Super Users and System Users for new functionality and “look and feel” of system

4. **Economic Engine:**

Funding from Oracle Upgrade Fund

5. **Staffing Impact:**

IT Resources required:

- Project Manager
- Oracle DBA
- Oracle System Admin
- Oracle Consulting Support

6. **Organizational Impact:**

All City departments

7. **Key Components and Partnerships:**

Oracle Corporation

Oracle Consulting Vendor – training, design, and staff augmentation

8. **Implementation Strategy:**

Inventory customizations and integrations

Design upgrade

Install Upgrade/Test Upgrade

Implement Upgrade

9. **Suggested Time Frame for Development:**

Start project in 3rd quarter 2009

10. **Performance Measures/Key Results:**

All users receive adequate training to continue to use the system

All reports migrated to the new system

Platform prepares us for an incremental upgrade to the Fusion technology in 2012

Action Plan (2009 - 2013)

- Implement software upgrades for both applications and databases as needed. (annually)
- Enhance and test disaster recovery site (ongoing)
- Integration with new Fleet Management system (2009)
- Install HR Performance Appraisal module (2009)
- Expanded use of self service modules (2010)
- Fusion migration (2012)

Resources –

Relationship to City Plan:
 Continuing to Build a Great Organization
Allocating Resources to the Right Staff

City Goal:

Organizational Effectiveness





Information Systems Division staff, Network Systems Staff, Fund 52 – Computer Replacement Fund, Fund 01 – General Fund

Human Resources

A comprehensive HR system was implemented in 2007 to handle City of Arvada’s human resources, applicant tracking, and training tracking needs.

Initiative 2 – Implement Performance Appraisal Module

1. **Description:**

Implement HR Performance Appraisal module to support goals of the HR Performance Appraisal improvement project.

2. **Project Benefit:**

More immediate feedback on employee performance appraisals
Automate new employee performance appraisal process

3. **Potential Barriers and Mitigation Strategy:**

Training for new system to all supervisors and employees

4. **Economic Engine:**

Funding from IT operational budget

5. **Staffing Impact:**

IT Resources required:

- Project Manager
- Oracle System Administrator

6. **Organizational Impact:**

- All city employees and supervisors

7. **Key Components and Partnerships:**

Human Resources Department
Cross functional City wide project team
Oracle Support Vendor

8. **Implementation Strategy:**

Identify goals of HR Performance Appraisal project
Configure Oracle Module to match project goals
Test configuration
Implement project

9. **Suggested Time Frame for Development:**

4th quarter 2009

10. **Performance Measures/Key Results:**

All City staff have access to new module





All supervisors and staff receive overview of new module

Employee reviews are completed on time better than 80 percent of the time

Action Plan (2009 - 2013)

- Investigate benefits management software (2009)
- Integrate benefits system with vendors (2009)
- Investigate on-line benefits enrollment functionality (2009)

Resources –

Information Systems Division staff, Network Systems Staff, Fund 52 – Computer Replacement Fund, Fund 01 – General Fund

Document Management

The current document imaging system was installed in 1997 and the initial use was for managing internal documents. Since this time the City Clerk's office has expanded the system and made documents available on the Internet. Many departments directly or indirectly use this system. It stores planning documents, asset management documents, court information and miscellaneous other documents.

Direct users include the Building Division, Courts, Clerk, Planning, CMO, Legal and Traffic. City Council Members indirectly use the Docs system by using the Paperless Council Packet. In the future the entire City could use the Docs system for storage of virtually any electronically created document. With this system anyone can save, retrieve, and search the system from any desktop with Internet access, as seen on the city website.

Action Plan (2009 - 2013)

- Train all employees on appropriate use of system (2009)
- Create Taxonomy for all current and future uses of this system (2009)
- Upgrade document management server (2009)
- Monitor trends in vendors as the consolidate (annually)

Resources –

Information Systems Division staff, Network Systems Staff, Fund 52 – Computer Replacement Fund, Fund 01 – General Fund

Geographical Information System (GIS)

A GIS system has been in place for many years at the City of Arvada. It was started using AutoCad software to map data about city streets, water structures, parks, zoning, council representation, location of traffic devices, sewer devices and maintenance, master index of subdivision plans, special districts, impact fees, resurfacing maps, project maps and easements, to name a few. The role of the IT Department is to support the hardware and database.

The current direction is a move from a mapped based system to a database system which has been underway for the last two years. The Geo Data Services Division (GDS) has chosen ESRI products for this action. Staff training and software have allowed for the creation of this new system. GDS has a presence on the new city website.

Action Plan (2009 - 2013)



- Standardize all addressing in GIS (2009)
- Integrate GIS with new Utility Billing Software (2009)
- Expand use for emergency preparedness and disaster response (on-going)

Resources –

Information Systems Division staff, Fund 52 – Computer Replacement Fund, Fund 01 – General Fund

Community Systems

Web

The City of Arvada currently has several active web sites. Site capabilities include department specific public information, job listings, public meeting agendas, and links to other community web sites. A WIKI style content management system provides easy access to City staff for posting information and the system allows for simple cross posting of information across all city managed sites. Arvada Interactive (The Blueprint for e-commerce in Arvada) was designed to create an avenue for e-Commerce activities. Many goals relating to Arvada Interactive will be implemented over the next 3 to 5 years.

Action Plan (2009 – 2013)

- Create and implement a Web site redesign that takes advantage of key technology acquisitions and supports organizational and Community goals for:
 - ArvadaPD.org (Police and Public Safety, Victim Advocacy)
 - Inside.arvada.org (Intranet)
 - AURA.com. (Arvada Urban Renewal Association)
 - Arvadacenter.org (Arvada Center for the Arts and Humanities)
 - AEDA.biz (Arvada Economic Development Association)
- Integrate Arvada Interactive goals:
 - Online Utility Billing Payments with new UB system (2009)
 - Upgrade Permitting software to allow for web interface and full on-line permitting (2009)
 - Standardize all Online Procurement (2009)
 - Rewrite inside.arvada.org to utilize new backend open source tools (2009)
 - Embrace social networking tools to meet the needs of our community (on-going)
 - Develop a virtual city hall model to provide all city services on-line (2010)

Resources –

Information Systems Division staff, Network Systems Division Staff, Fund 52 – Computer Replacement Fund, Fund 01 – General Fund

CRM – 3-1-1

For those who want a more convenient way to contact City Hall, a CRM was implemented to enable residents, businesses, and visitors to access valuable city information and submit questions or service requests 24-hours a day, seven days a week from the comfort of their homes or offices. This is a hosted solution.

Action Plan (2009 - 2013)

- Train new employees and managers (annually)
- Continue to monitor needs and if necessary implement a full 311 solution (annually)



- Integrate Twitter requests into CRM system (2009)

Resources –

Information Systems Division staff, Network Systems Division Staff, Fund 01 – General Fund

Internal Services

Mail delivery and distribution

The City of Arvada has 1 FTE position, job shared currently, to provide mail delivery internally and externally. Staff distributes incoming and outgoing mail and process utility bills.

Action Plan (2009 - 2013)

- Work with customers on postage saving opportunities (annually)
- Continually monitor trends to determine what services are needed (on-going)

Resources –

General Services Division staff, Fund 01 – General Fund

Printing and Binding Services

The City of Arvada has maintained a full service print shop for over 20 years. Equipment and services have evolved over time and will continue to do so to stay viable and offer the products and services required to support all City printing, binding and design initiatives.

Action Plan (2009 - 2013)

- Market the current services to the organization (ongoing)
- Replace other equipment, such as the Press as needed (2009)
- Work with customers on “creative services” or graphic services (annually)
- Work to drive down costs while providing high quality services
- Create Arvada Report layout (bi-monthly)

Resources –

Information Systems Division staff, General Services Staff, Fund 53 – Central Services Fund, Fund 01 – General Fund



VI. Summary

This strategic plan reflects the Arvada Information Technology Department's commitment to working with other City departments, businesses and citizens in continuing to build a great community. The process utilized in the formulation of our strategic plan incorporated many of the concepts outlined by Jim Collins in his book "*Good to Great*."

One of the first concepts introduced in the book is "*first who, then what*." The Arvada Information Technology Department has a long tradition of retaining, selecting, hiring and training some of the best employees available in the workforce. We will continue to make this a priority. The Information Technology Department is a service related business and the quality of services we provide is dependant on the quality of our employee body.

Another concept contained within the book is "*confronting the brutal facts*." While formulating our strategic plan, we evaluated the environment in which we presently operate and potential changes to that environment for the future. The SWOT analysis evaluates our current policies and practices in relation to this changing environment. The business initiatives are designed to focus our efforts on our core business activities, bearing in mind the weaknesses and threats to the organization, within a comprehensive plan to address each in the future.

Demand management is one of our chief concerns when "*confronting the brutal facts*." The Information Technology Department has inventoried over 300 software applications on the City's network. Support for this technology ranges from nothing/vendor to full system support. We have gaps in staffing to support effectively all of these applications and need to look at the value provided by these systems from a business perspective. The IT Department also needs to look at the services it provides currently to see the value provided by each service. There are some services we can stop doing. It will be hard to sustain the project load in the Department over time without burning out staff or lowering expectations from customers, neither is beneficial. Work will need to be done to effectively prioritize all projects with the organization. The IT Council needs to help guide these decisions to align with the City's business objectives.

Finally, we have spent considerable time defining our service offerings through our service catalog. These core business activities accurately depict what we are passionate about; *Great Technology and Great Service*. Furthermore, this is what we must strive to be the best at providing. Lastly, we evaluated our economic engine and defined our responsibility to assure the continued viability of the City's technology infrastructure. The intersection of these three concepts, as discussed by Collins, clearly "translates into a simple, crystalline hedgehog concept." The future application of these concepts through our strategic planning model will launch us towards our quest to become "great."

Great Technology, Great Service, Period.



VII. Appendix

Appendix A

IT Standards

The I.T. Department has shifted from an ad hoc decentralized technology focus to one of a managed centralized focus. As such standards on technology implementation and use are now in place.

Departments work with I.T. and the I.T. Council when implementing technology. Projects are not funded unless they meet specific Infrastructure standards, as seen in Appendix G.

Appendix H shows where systems meet specific System Architecture standards now.

Appendix I table shows the framework for procuring and implementing software.

The complete IT standards document is maintained on the City website www.arvada.org in the Information Technology page.



Appendix C

Service Catalog Summary

The IT Department has created an internal service catalog in which all services have been identified and categorized by one of the six core business systems. Each service has its own entry to detail the support infrastructure as determined by the IT staff and the key business customer. See examples.

Enterprise Systems – These systems are utilized by the majority of the organization

- Blackberry Management
- Computer Network File Sharing and Print Services
- Copiers
- Database Administration
- Electronic Document Management
- E-mail, SPAM and Archiving
- Financial Management
- Geographic Information System Support
- Human Resource Management
- Human Resource Recruitment
- Interactive Voice Response (IVR)
- Intranet Portal
- Radio System
- Telephone and Communications

Business Systems - These services provide specific value to a given department or division.

- 911 Telephone Systems
- Catering Management System
- Fleet Management
- Municipal Court Records System
- Permitting System
- Police Computer Aided Dispatch System
- Police Mobile Computing System
- Police Records System
- **Police Specialized Systems**
- Sales Tax Management System
- Tessitura Ticketing/Marketing System
- Utility Billing – Customer Information System
- Waste Water Back Flow

Infrastructure Services - These items are critical to the foundation of technology used around the city.

- Anti-Virus Management
- Arvada Area Command (Emergency Operations) Center
- Business Continuity
- Computer Desktop Imaging and Management
- Computer Network – Wired



- Computer Network – Wireless
- Computer Operating System Administration
- Computer Room Management
- Computer Security Management and Monitoring
- Computer Server Hardware Administration
- Data Backup and Recovery
- Disaster Recovery
- Internet Management and Connectivity
- Network Operating Systems Management
- Remote Access Services
- Software License Management and Deployment
- Software Updates – Bug fix, Upgrade and Patch
- Storage Area Network (SAN) – Disk Space
- Virtual Server Management
- Web Content Management System

Community Services - These systems are used primarily by our citizens or community partners.

- Cashiering Functions
- Citizen Request Management (CRM) – 311
- Information/Reception
- Web Site Design
- Web Site Maintenance

Internal Services - These services are used internally by the City staff

- Document Design
- Print Shop
- Mail Room
- Service Desk – Help Desk

Strategic and Project Planning – These are work and/or processes to manage the resources of the department, project management and budget planning.

- Administration and Staff Management
- Annual Project Planning / Demand Management
- Business Analysis / Business Alignment
- Business Planning
- Change Management
- Project Estimation
- Project Management
- Strategic Planning



Human Resource Management – Service Catalog Entry Sample

Description of Service:	Software that supports enterprise human resource management and interfaces with the financial management system. This system does all of HR management except recruiting.
Support Contact:	<p>If the issue is related to a software functionality problem:</p> <ul style="list-style-type: none"> • Call Oracle Support or open a ticket using Oracle Metalink • Oracle Support – • Metalink - https://metalink.oracle.com/ <p>If the issue is not an Oracle Functionality problem or if the user is unsure what the problem is:</p> <ul style="list-style-type: none"> • Customers should complete an IT Service Request ticket from inside.arvada.org or email the IT Service Desk to initiate a support request. • In an emergency or if the system is down, please call the IT Service Desk during business hours or the IT On-Call phone outside of business hours.
Customers:	Enterprise
Included IT Services:	<p>Resolution of Technical Issues</p> <ul style="list-style-type: none"> • Escalation of Oracle Support issues that are not being resolved in a timely manner • Support for new and one-time reports – request using helpdesk ticket • Custom Applications – need to open an IT project
Assumptions and Conditions:	If the city is undergoing or recovering from a disaster, please refer to the Business Continuity Plan for support standards.
Service Hours:	8:00 a.m. to 5:00 p.m. business days.
Maintenance Window:	<p>Sunday 7am – 7pm MT</p> <ul style="list-style-type: none"> • Wednesday 7pm – Thursday 6am MT
Responsibilities of Customer:	<p>Report functional problems to Oracle Support</p> <ul style="list-style-type: none"> • Report all other problems to helpdesk • Have representation on Super Users group • Super Users - Available to test patches from Oracle • Super Users - Available to test annual payroll patches from Oracle • Super Users – train new users on system
Funding:	\$XXX computer replacement fund, X FTEs
Performance Measures:	TBD

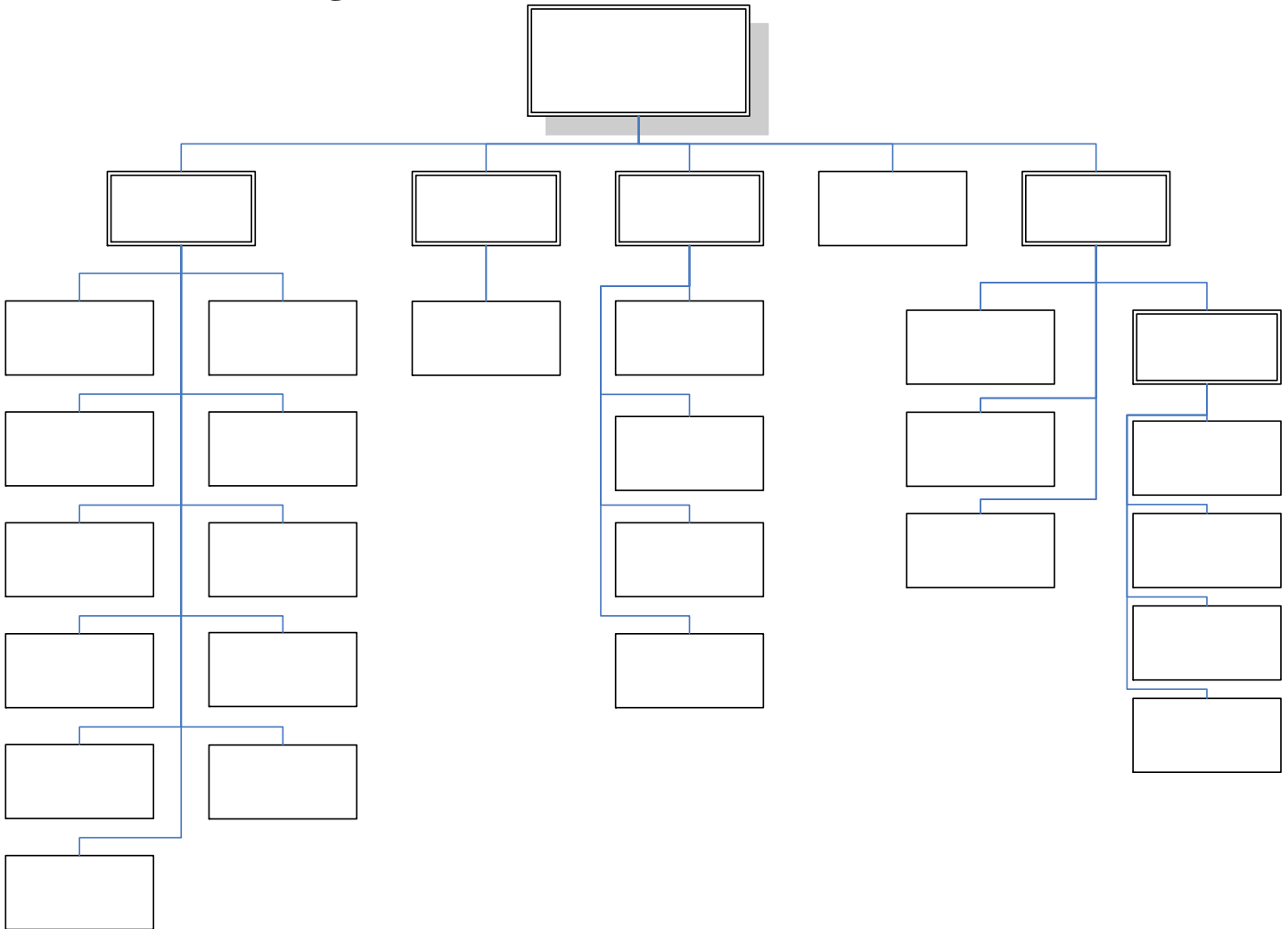


Police Specialized Systems – Service Catalog Entry Sample

Description of Service:	Provide initial support for specialized Police Department applications. Most of these systems are supported by the individual vendor, and IT staff may need to escalate support issues to the vendor. These applications include, but are not limited to the following: Adore IA Pro LiveScan fingerprint system connection to CCIC/NCIC) Vision Tek Coplink KATS NewComm (web
Support Contact:	Customers should complete an IT Service Request ticket from inside.arvada.org or email the IT Service Desk to initiate a support request. In an emergency or if the system is down, please call the IT Service Desk during business hours or the IT On-Call phone outside of business hours.
Customers:	Police Department.
Included IT Services:	Service desk support Backup, restore and disaster recovery Application patching, upgrades Application packaging
Constraints and Restrictions:	Much of the support for these applications is dependent upon the vendor for final resolution. IT staff will act as contact personnel, but cannot be expected to provide the solution without the assistance of the vendor.
Assumptions and Conditions:	If the city is undergoing or recovering from a disaster, please refer to the Business Continuity Plan for support standards.
Service Hours:	8:00 a.m. to 5:00 p.m. business days.
Maintenance Window:	Typically the maintenance for these applications is dependent upon the vendor’s schedule. Most of the maintenance will occur when the individual system is experiencing problems, and should be done as soon as possible to restore the system to normal use.
Responsibilities of Customer:	The customer should notify IT of issues with one of these applications in a timely manner (usually as soon as an issue is noticed). Advanced warning of upcoming patches or upgrades is also required, so these can be scheduled appropriately. Requests for new applications and/or technology must be routed through the Police Technical Advisory Committee (TAC) by means of a Technical Acquisition Request (TAR).
Funding:	Funding for these specialized applications is the responsibility of the Police Department in the budgeting process.
Performance Measures:	Each application will have its own measure for acceptable performance.



Appendix D IT Divisions - IT Organizational Chart



Information
Systems Manager



Information Technology - Division Information

Information Systems Division

PURPOSE: The Information Systems Division provides computer system support, programming and services to City Departments, manages information systems projects and guides the organization in the areas of telecommunications, system automation, and information retrieval.

PROGRAMS:

Financial Management System
Arvada Center Systems Support
PG&HS System Support
Web Services
Utility Billing and Sales Tax Systems

GIS Support
Permits Software Support
Disaster Recovery Planning
Project Management

Network Systems Division

PURPOSE: The Network Systems Sub-Division administers, maintains, repairs, supports, and provides services to City departments in the areas of workstations, servers, local and wide area network connectivity, email, data backups, helpdesk, replacement fund, file and print services, network wiring, web access, and computer room environment.

PROGRAMS:

Operating System Support
Server Administration
Help Desk
PC Installation, Maintenance and Support
Replacement Fund
Telecommunications

LAN/WAN
Network File and Print Services
E-Mail
Wiring Infrastructure
Computer Room Environment
WEB Access



Police Systems Division

PURPOSE: The Police Systems Sub-Division supports, maintains, and upgrades all Police Technical Systems, as well as identifies, assesses, procures, and implements new technology to assist the police department in its public safety mission.

PROGRAMS:

- | | |
|---------------------------------|---|
| City Radio System | PSAP/Communications Systems and Equipment |
| Police CAD/RMS | Interoperability and Communication with |
| Patrol Car Mobile Computers | Outside Agencies and Databases |
| Arrest/Booking Equipment | Helpdesk Response to Police Specific Issues |
| Specialty Systems and Equipment | |

General Services Division

PURPOSE: Provide support and services to City departments, projects and employees in the areas of mail delivery, printing, binding, creative design services, main entrance reception and copier administration.

PROGRAMS:

- Print Shop
- Copiers
- Mail Delivery
- Reception



Appendix E - COBIT Maturity Model

Level	Description:
0	<p>Nonexistent</p> <ul style="list-style-type: none"> • There is no senior management oversight of IT-related activities to ensure that the enterprise’s IT goals add value to the organization and to ensure that IT-related risks are appropriately managed.
1	<p>Initial/Ad Hoc</p> <ul style="list-style-type: none"> • There is a realization that more formalized oversight of IT is required and it needs to be a shared management responsibility requiring the support of top management. • Regular governance practices such as review meetings, creation of performance reports, and • investigation into problems take place, but rely mostly on the initiative of the IT management team, with voluntary or co-opted participation by key business stakeholders, depending on current IT projects and priorities. Problems identified are tackled on a project basis with teams formed as necessary to undertake improvements.
2	<p>Repeatable but Intuitive</p> <ul style="list-style-type: none"> • The concept of IT governance does not exist formally and oversight is based mostly on management’s consideration of IT-related issues on a case-by-case basis. The governance of IT depends on the initiative and experience of the IT management team, with limited input from the rest of the organization. • Upper management is involved only when there are major problems or successes. The measurement of IT performance is typically limited to technical measures and only within the IT function.
3	<p>Defined Process</p> <ul style="list-style-type: none"> • An organizational and process framework has been defined for oversight and management of IT activities and is being introduced to the organization as the basis for IT governance. • Specific procedures for management covering key governance activities have been developed. These include regular target-setting, reviews of performance, assessments of capability against planned needs, and project planning and funding for any necessary IT improvements. • Previous informal but successful practices have been institutionalized and the techniques followed are relatively simple and unsophisticated.



4	<p>Managed and Measurable</p> <ul style="list-style-type: none"> • Target-setting has developed to a fairly sophisticated stage with relationships between outcome goals in business terms, and IT process improvement measures now well understood. Real results have been communicated to management in the form of a balanced scorecard. • The enterprise’s management team is now working together for the common goal of maximizing IT value delivery and managing IT-related risks. There have been regular assessments of IT capabilities and projects have been completed that have delivered real improvements to IT’s performance. • Relationships among the IT function, its users in the business community and external service providers are now based on service definitions and service agreements
5	<p>Optimized</p> <ul style="list-style-type: none"> • The IT governance practices have developed into a sophisticated approach using effective and efficient techniques. There is true transparency of IT activities, and the board feels in control of the IT strategy. • IT activities have been optimally directed toward real business priorities, and the value being delivered to the enterprise can be measured and steps taken on a timely basis to correct significant deviations or problems. • The balanced scorecard approach has evolved into one that is focused on the most important measures relevant to the enterprise’s overall business strategy. The effort spent on risk management (and on IT management activities generally) has been streamlined through adoption of standardized and, where possible, automated processes. • The practice of continuous improvement of IT capability is embedded in the culture and this includes regular external benchmarking and independent audits providing positive assurance to management. • Overall, the cost of IT is monitored effectively and the organization is able to achieve optimal IT spending through continuous internal improvements, the effective outsourcing of selected services and effective negotiation with vendors. When dealing with external business partners or service providers, the organization is able to demonstrate first-class performance and demand best practices from others <p>Source: Control Objectives for Information and related Technology (COBIT).</p>



APPENDIX F –

Project Accomplishments

MAJOR ACCOMPLISHMENTS:

- **Server Virtualization** – converted majority of City’s servers to use VMWare and SAN
- **Credit Card PCI Compliance** – completed Gap analysis for PCI compliance for City’s credit card systems
- **IT Department Reorg** – reorganized IT department to better align with IT’s new Service Management Strategy
- **New Radio Service Provider** – upgraded the Police Department’s Radio system with a new Radio Service Provider
- **Upgrade Content Management Tool** – upgraded the City’s Content Management Tool to provide a more user friendly interface and updated Web 2.0 features to allow the City’s content managers to create Web pages more efficiently
- **Police Department Automated Plate Reader Software** – installed software to automatically read license plates and flag citizens with outstanding warrants
- **Upgrade to Intranet Site** – major upgrade for the City’s Employee Intranet site adding several Web 2.0 features including blogs, ability to add comments to stories, user friendly content manager interface, employee classifieds, and upgraded employee calendar.
- **Mobile Building Inspector Project** – created a Citrix connect and provided laptops for all Building Inspector employees so that they can complete work remotely improving efficiency and saving space at City Hall.
- **Connection to Jeffco Jail** – added connection to the City’s system to the Jefferson County Jail to improve efficiency and quality of processing information
- **Upgraded the Urban Renewal Authority Web Site** – rewrote the Urban Renewal Authority website and also moved the Website to the City’s internal content management system saving money and improving efficiency of updates to Website
- **Police Department Voice Recognition System** – installed Voice Recognition software for the Police Department to improve efficiency of transcription services
- **Secure USB Devices** – tested and distributed secure removable storage devices for use by City employees
- **Self Service Performance Evaluations** – automated the process for employee evaluations using Oracle’s Self Service module. Managers and employees now have an automated tool to more easily and consistently document and communication an employee’s evaluation

MAJOR CHANGES:

- New technology security policies and procedures were created, reviewed and implemented August 2007.
- Added one FTE to support Building Permit technology and Arvada Center ticketing and marketing software.
- Created a focus on project management to include re-grading a position to an Associate Project Manager
- Prioritized the need for wireless competition in the community to determine needs and then started addressing implementation of a communitywide system.
- Augmented the Disaster Recovery site to include Police systems, communication systems including email, phone and blackberry, Sales Tax and Utility Billing and Finance systems. Tested and documented use in a disaster.
- Started down the path to better align IT with the business. This work will continue in earnest during the second half of 2008 and the first half of 2009.
- Reached agreement with Arvada Fire Protection District allowing them to upgrade their radio system by joining on to the Arvada/Westminster 800 MHz system – greatly furthering radio interoperability and interagency co-operation.
- Implemented email encryption policies and purchased software to manage and archive all email for 3 years to comply with E-discovery Federal Civil Law changes.



Appendix G

Basic Procurement Technology Standards Worksheet

This document is utilized in the following situations:

- When the software requires a server
- When the software is utilized by more than one employee, division or business unit
- When the software requires regular data backup
- When the software is a candidate for the Computer Replacement Fund

How this document is utilized:

This document is to be used in the evaluation and procurement process to assess how a given software application will fit with the City’s technology infrastructure standards. Vendors will be expected to complete this form as part of the RFP process.

Also see **Technology Standards lists in the IT Architecture and Infrastructure Plan on www.arvada.org**

Current Components for City of Arvada IT Infrastructure		
Network Infrastructure	Hardware Infrastructure	Software
<input type="checkbox"/> 100/1000/10000 Ethernet Switches	<input type="checkbox"/> Server Hardware (Intel or AMD)	<input type="checkbox"/> MS XP, 2003, Vista
<input type="checkbox"/> 802.11x Foundry AP's	<input type="checkbox"/> Workstations (Intel or AMD)	<input type="checkbox"/> RedHat, MS 2003, Vmware, Netware
<input type="checkbox"/> Nortel Routers	<input type="checkbox"/> HP Business Class network printers	<input type="checkbox"/> GroupWise Email
<input type="checkbox"/> Iprism Web Filter	<input type="checkbox"/> Fiber Channel or iSCSI SAN	<input type="checkbox"/> LDAP
<input type="checkbox"/> Cisco PIX	<input type="checkbox"/> McData Switches	<input type="checkbox"/> XML
		<input type="checkbox"/> SMTP
		<input type="checkbox"/> Oracle
		<input type="checkbox"/> MS SQL
		<input type="checkbox"/> Apache
		<input type="checkbox"/> Cold Fusion
<p>OR Hosted Solution</p> <p>Please Explain Hosted Solution:</p>		



Appendix H

Systems Architecture Standards for Current Systems

The IT Department strives to make this matrix as “green” as possible. This allows us to utilize existing resources such as staff and their skills, software maintenance agreements and IT standards as much as possible. The IT Council makes project decisions based on the best interest of the organization, and utilizes this chart as a guide.

Also see Technology Standards lists in the IT Architecture and Infrastructure Plan on www.arvada.org

Component	City of Arvada System Architecture Information September - 2007												Primary Support Group
	Document management	Courts	Police System	Sales Tax and Utility Billing	Web Services	Financial System	Permits	Arvada Center Constituent Management	Waste-water	GIS	E-Mail	Telco	
Application													Information Systems
Database	MS SQL	Oracle	Oracle	Pick	MYSQL	Oracle	Oracle	MS SQL	Oracle	Oracle	Novell	Nortel	
Desktop O/S	XP	XP	XP	XP	XP	XP	XP	XP	XP	XP	XP	Nortel 3900 Series	Combo IS and Network Support
Server H/W Platform	Intel	Intel	Intel	HP	Intel	Intel	Intel	Intel	Intel	Intel	Intel	Nortel and Intel	
Server O/S	Win 2000	Win 2000	Win 2000	HPUX	Linux	Linux	Linux	Win 2000	Linux	Linux	Net-ware	Nortel	Network Systems
Network	Foundry 10gb backbone												
Legend	<p>Items in Green are fully supported IT standards Items in Blue are supported, however less in-house expertise exists Items in Purple are supported but support may be contracted and systems are used because they are the best platform for a given application Items in Red are targeted for replacement</p>												



Appendix I

Software Procurement Flow Chart

City of Arvada Software Procurement Process Flow

