

2008 Technology Strategic Plan

I. Strategic Plan

A. Vision Statement

To provide economical state-of-the-art Information Technology to support the effective delivery of public services to the community.

B. Objectives

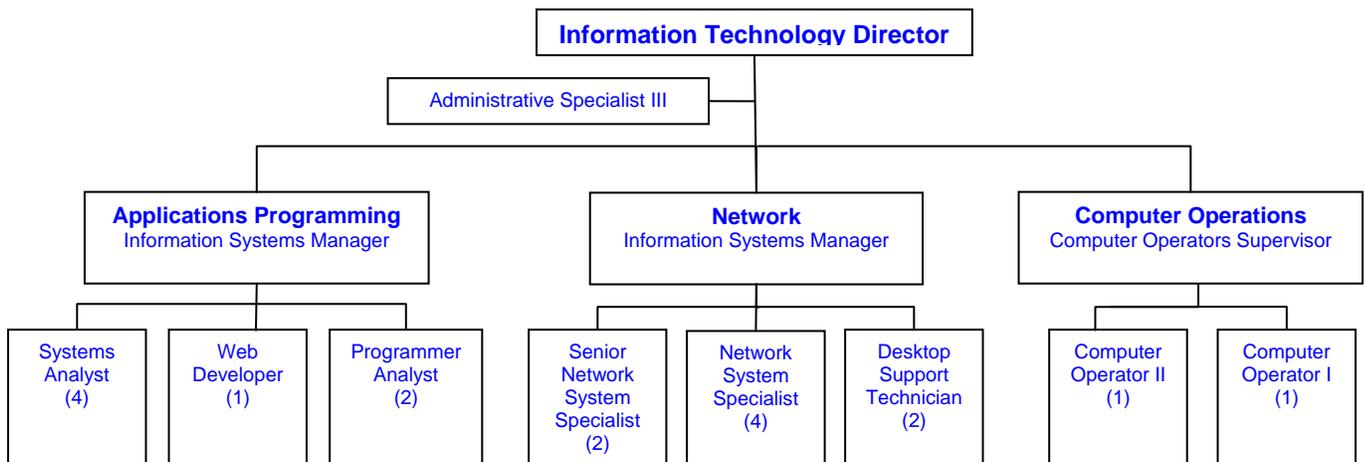
Improve the accessibility of information to citizens and staff.

1. Research and implement new technologies that meet the City's business needs.
2. Manage technology to avoid obsolescence, and costly replacement.
3. Utilize personnel resources for the highest possible benefit to the City.
4. Institute a governance process that supports City objectives and addresses competing priorities.

II. Background

A. Organizational Structure

The Technology Services Department consists of four functions: Applications Programming, Networks, Computer Operations, and Telephony Services. There are three division managers in the Department. The manager in charge of Networks also manages Telephony Services.



B. Information Technology Funding

There are limited funds in the budget for new information technology projects. Efforts are being made to seek grants for various projects.

The possible funding of any new projects for Fiscal Year 2008/2009 is not known.

C. Technology Steering Committee

A Technology Steering Committee was formed to assist in uniformed distribution of information technology resources, technology strategic planning, and standards review. The committee is made up of seven members. They are as follows:

- Information Technology Director
- One public safety department director
- One utility department director
- Two department directors from any of the other departments
- Two staff members from two different departments

D. Technology Architecture

Following is an inventory of equipment, technologies, and software that make up the technology infrastructure at the City of Independence.

The City has made a major investment in its information assets by purchasing, writing, and implementing application systems based on the equipment technologies and software listed in this section.

Primary data storage and processing for legacy applications is done using IBM's iSeries platform.

Client Server applications are primarily hosted on HP file servers running Microsoft Server and Microsoft SQL. File and print services are provided by HP file servers running Novell NetWare and Microsoft Server.

Because of ever increasing use of the computer systems, it is necessary to periodically upgrade the system processors and data storage units. These periodic upgrades, which range from installing additional disk and memory capacity to replacing and enhancing processor units, are a normal part of the ongoing maintenance of a computer system.

Communication Network Architecture

- 36 File Servers
- 8 Virtual Servers to City's Wide Area Network (WAN)
- 37 Locations Connected

- Ethernet Backbone using 10/100/1000BT twisted pair wiring
- Fiber Optic connections to 14 locations
- Novell NetWare, Linux and Windows Servers Operating System
- Web server attached to the Network using Windows 2003
- at&t provides the Internet connect via the frame relay
 - independencemo.org
 - ci.independence.mo.us
- Connect server attached to the Network using Novell NetWare also has NetWare connect, GroupWise WebAccess Gateway, and GroupWise SMTP gateway
- Access via broadband wireless VPN connections at the following locations
 - Missouri City Power Plant
 - Police K9 Unit
 - Woodlawn Cemetery
- Other servers
 - Access via broadband wired VPN connections – DSL and cable modem – at the following locations:
 - Fire Station #2 through Fire Station # 10
 - Adventure Oasis Water Park
 - Englewood Police Substation
 - Antivirus Server
 - Citrix Thin Client Servers (3)
 - Firewall Servers (25)
 - Proxy Server using Bluecoat (surf Internet)
 - Virtual Private Network services using Cisco VPN
 - Symantec Antivirus/SPAM Device
 - Google Search Engine Server

Personal Computers

- Command Software Antivirus
- GroupWise e-mail
- MS Office Suites
- Workstations use Windows 2000 and Windows XP

Telephone System Configuration

- Call Accounting System supported by Veramark eCAS v3.1
- Definity G3si Release 12 (City Hall)
- Definity Prologix PBX Release 13 (at Water Administration)
- Definity Prologix Release 9 (Water Plant)
- Definity Prologix Release 11 (Power & Light)
- Intuity VoiceMail System – MAP40 v.5
- Definity S8400 Release 13 (Health)

Other Technologies

- Auto Attendant on PBX (Avaya)
- Credit Card Payment Software (Go Software-an ROI company)
- Electronic Forms Generation (Digital Designs, Inc.)
- Electronic Report Generation (Glauss)
- Geographic Information Systems (ESRI)
- Interactive Voice Response (iMessaging)
- Query Report Generator (Showcase/SPSS)
- Voice Recognition for PC's (Dragon Naturally Speaking)
- Voice Recognition for PBX (Nuance Speech Attendant)

E. Application Architecture

See Addendum "B" for applications that are processed on the IBM iSeries computers, file servers and personal computers.

F. Standards

The goal of standards is to help optimize the City's economies of scale in purchasing, ability to support and maintain its technology, ability to train staff on how to use the technology, and the reusability of equipment. Standards help develop technically compatible systems using a consistent approach and promote migration to enterprise solutions with reduced complexity and support requirements.

IBM iSeries Software Language – The City has standardized on RPG and COBOL as the languages to be used for applications that are to reside and be processed on the IBM iSeries computers.

Web and Windows based Software Language - The City has standardized on Microsoft C#.NET as the language to be used for applications that are to reside on Web or Windows.

e-Mail - The City's standard for e-mail is Novell's GroupWise.

File Servers – HP Compaq is the City's file server standard.

LAN Operating Systems - The operating system software on the City's LAN's is Novell NetWare, Microsoft Windows 2000, Windows 2003 and Linux.

Networking - The City's standard for local area networks is Ethernet. Ethernet is compatible with virtually all major hardware vendors.

Printers - The City's standard for laser printers and ink jet printers attached to a single workstation or the network is Hewlett Packard.

Routers and Switches – Cisco is the standard for routers and Hewlett Packard is the standard for switches. Older equipment of a brand other than the standard will be replaced over the next four to five years.

Word Processing – Microsoft Word is the City's standard word processing software.

Workstation/Personal Computer - Technology Services provides standard workstation configuration on-line. The standard brand for workstations is HP. All workstations purchased are to be tier one as defined by Gartner Group Manufacturers. These are vendors that build corporate commercial quality equipment.

III. Technology Strategies

A. E-Government

1. Vision

To deliver government services through the use of various electronic methods providing access to information and services when the customer wants or needs it.

2. Community Use

a. Website

Citizens expect Internet services from government. A citizen survey is one of the steps needed in determining the direction the City should take in the continuing development of our website. City staff brainstorming sessions were held to get input on what services they thought customers may want. See Addendum "C" for current internet services.

1) During 2008, the following Internet Applications will be implemented:

- Park Finder
- Interactive Tourism Map
- National Frontier Trails Museum Store
- Provide the status of closed job openings
- Provide economic development information
- Continue to expand the capability of Web Content Management to allow departments to update their own information such as event calendars, etc.

- Increase the number of RSS feeds and localize all feeds on a single page
- Provide enhancements to the Business License System
- Webcast Inside Independence
- Provide GIS interactive mapping
- Take payments using eChecks

2) Design Issues

The web site was redesigned in 2006 to provide better access and an updated look.

3) Costs

Hardware - The City's web server was replaced in May of 2005. It should be replaced every four years to ensure that visitors will be handled in a quick and reliable manner. The estimated replacement cost for the server is \$10,000.

4) Intranet

See Addendum "D" for features.

In 2008 the following will be accomplished:

- An employee survey will be conducted to get suggestions for new Intranet (CityNet) features
- Add enhanced features to the Content Management System
- Display job postings on CityNet
- Implement an e-surplus system
- Add a paperless hiring system (CityHire)
- Add bi-weekly compensation and benefit statements
- Add graffiti reporting
- Add a legislative review system
- Display hot topics on CityNet
- Add the ability to enroll for the Flexible Benefit Plan

b. Interactive Voice Response (IVR)

The Interactive Voice Response (IVR) system provides those customers without computers electronic access to information 24-hours per day, 7 days per week. This provides some bridge to the so-called "Digital Divide."

- Municipal Court Date information
- Traffic and Parking Ticket payments
- Utility Bill information and payment

The IVR was purchased by the Utilities. Use of the system by other departments needs to be sanctioned by Utilities Customer Service.

B. Telecommunications

1. Local Area Networks

- a. In 2006 the Local Area Networks were upgraded to Netware 6.5. The City will continue to monitor the network operating system software used to ensure that the Novell NetWare product remains a proper and viable choice.
- b. Thin Client technology is being used by Public Works with the cartograph software; Power & Light with the OMS system; Police Department with New World System at the Canine Unit, Independence Center substation and Fairmont substation, and also at Fire Stations 1 thru 10 with the FireHouse application. We will continue to implement Thin Client technology in instances where on-line response time is an issue.

2. Fiber Optics

There are now nine locations on our wide area network (WAN) that are connected via fiber optics.

The City should continue to work toward implementation of fiber optic technology to connect additional locations on the City's Wide Area Network. The primary focus will be on locations along the Truman Road Corridor. When feasible, either through agreements with the cable franchisee, or when the cost can be justified, fiber optic cabling should be installed in the following priority order:

- Fire Station #1 – 950 N. Spring St
- Power & Light Service Center/Plant - 21500 E. Truman Rd.
- Water Administration - 11610 E. Truman Rd.
- Jackson County Election Board – 215 N. Liberty
- Truman Memorial Building – 416 W. Maple
- Palmer Senior Center – 218A N. Pleasant St.
- Animal Control - 875 Vista Dr.
- Fire Station #8 - 21300 E. Truman Rd

3. Wireless connection

The City continually works toward use of mobile terminals in the field. Primary focus for 2008 will be implementation of wireless laptops at

Animal Control. The wireless technology connects to the City's main network through the use of virtual private network (VPN).

C. Technology Proficiency

1. Standards

a. Hardware

Over the next year no changes are recommended for the technology platforms, specifically the IBM iSeries midrange computers. The City has a considerable investment in the software purchased and written for this equipment. It is a sound foundation from which the City can build future applications. The system is in the mainstream of the midrange computer industry. This platform offers a wide variety of software packages that are available.

In 2008 both IBM iSeries midrange computers were replaced. Both of the IBM iSeries computers are financed for 36 months. The payment for one of them is included in the Technology Services budget and the other payment is in the Police Department budget.

b. Software

The City has established Microsoft Office as the microcomputer software standard for word processing, spreadsheets, presentations, and database management software. As mentioned before in the report, network operations software should be constantly monitored to stay abreast of the condition of Novell and their NetWare product to evaluate whether a change in this standard should be made.

2. Training

The City recognizes the need to locate cost effective technology training. This may be accomplished through class offerings from Blue River Community College, MARC, and private training vendors. This training will be coordinated through the Human Resources Training and Development Coordinator. All Technology Services staff will attend at least one class each year.

3. GIS

Geographical Information System (GIS) – A GIS Strategy has been developed. Funding for fall implementation of the Strategy is pending. The detailed Strategy can be found in Addendum E. As reported under the section on the Internet, maps will be made available on our web site.

The HTE Land Management Address File has been established as the addressing standard. The Utility Billing and Business License

Systems have been converted to this standard. A program called "Global Address Search" has been written so that authorized staff can enter an address and see services provided at that location. Some of the information provided is owner, legal description, utility services, business licenses, code violations, and building permits. The Land Management Address File is also the addressing standard for the GIS addresses. We will continue to look at changing the 911 addresses that come from at&t by working with the Mid-America Regional Council.

4. Application Systems

- a. The City should move toward acquisition of applications that are integrated. The need for sharing of data is imperative. When it is not possible to acquire integrated applications, consideration should be given to interfacing unlike applications through programming efforts by Technology Services staff. Applications acquired should also have GIS capability where possible.
- b. During 2008 the following applications will be implemented:
 - Password protect utility customer information
 - eCheck payment option for utility statements
 - Sync City voter database with the state system
- c. During 2008 the following applications will be enhanced
 - Credit Card Processing
 - Public Safety Systems
 - Business License System
 - Community Development System
- d. The City has several software systems installed as noted in Addendum B. In the upcoming two years a balance should be established between installation of new software and the need for resources assigned to maintaining and enhancing existing software systems.
- e. Over the next three years some of the City's Technology Services staff will be eligible for retirement. Technology Services should begin to establish a process for transfer of knowledge from older staff to younger staff members.

5. Telephone System

The City has begun to attach satellite PBX's to the PBX serving City Hall and the Police Building. To date, we have attached satellite PBX's at Water Administration, Water Plant, Power & Light, and Health. We should continue to research and evaluate use of this technique in other City buildings. If the City can reach the point at

which most or all City buildings' PBX equipment is interconnected, savings can be obtained by elimination of expensive tie-lines and plexar station costs.

During 2008 we will be installing new satellite PBX's at the Water Pollution Control Rock Creek Plant and the Sewer Maintenance Facility. We will also be upgrading our Nuance Speech Attendant automated voice recognition system.

D. Encryption

The City recognizes the need to secure data on the IBM iSeries, GroupWise e-mail, and MSWord documents. Currently, all internet financial transactions are encrypted as well as internal transmission of e-mail messages. In 2008 we will continue a major initiative to provide encryption for payroll and other areas not currently covered, in particular those mentioned above.

E. Disaster Recovery/Business Continuity

During 2007, Disaster Recovery computer equipment was installed at off premise sites. This equipment will process Public Safety, Utility Billing, Payroll, Accounts Payables and Purchasing systems in the event of a disaster.

During 2008, we will be installing underground fiber optic cable from our central computer facility in the Central Police Building to the City's Emergency Operation Center located at Fire Station #1. The next phase of this plan will be implemented in 2009 and will consist of hardware and software upgrades at the backup site that will take advantage of the fiber connectivity to keep data and application software in synchronization between these locations.

ADDENDUM A

City Staff Technology Ideas

In August, 2004, the Information Technology Director conducted technology orientation sessions for supervisors, managers, and directors. This orientation was followed by technology brainstorming sessions by City staff. Ideas for use of new and current technology were recorded. This addendum identifies the results of those brainstorming sessions.

**NOTE: All items shaded are targeted for completion in 2008.
All items with a ✓ were completed in 2006 & 2007.**

Communication

- Ability to receive/send faxes electronically – directly to PC
- Expand technical capabilities in every conference room; i.e. network drops, telephones, etc
- Software installs (Push technology) instead of coming to PC to install
- Video conference for fire stations and all City locations – teleconference this type of training so people don't have to leave their office

Customer Service

- CityScene e-mail option instead of inclusion in pay stub envelope and in Utility statement of staff who are Independence residents
- Higher technology for identifying/communicating with critical care customers (use of barcoding to save time for details on health, restrictions, etc. of individuals)
- Self service cashier station

Document Processing

- ✓ Scanning of more documents to reduce paper handling and the amount of stored paper
- ✓ Upgrade Copy Center – Color Computer –Operated printing system. Center should be able to save electronic files. Cost savings if able to do in-house printing.

Internet

- Apply for Community Development programs (i.e. first time home buyers)
- ✓ Brochures in pdf format
- Burial plot information

- Dial-a-ride reservations
- Electronic application for Health Permit and the ability to pay on-line
- Geographic information searches
- ✓ Police “most wanted” list
- Police Reports available for purchase at our web site
- Provide instructional videos
- Provide status of potholes and complaints
- ✓ Register for recreation programs/trips/tours/meals
- ✓ Reserve facilities and pay any necessary costs
- ✓ Schedule Parks facilities
- Search feature on web page which would direct visitors to appropriate department or section (i.e. ordinances) and a link to service providers
- Sign up for utilities – take credit cards for deposits
- ✓ Streaming video on the web site/electronic City Council meetings and public hearings
- Submit plans and plats electronically (address the issue of professional seal)
- ✓ Calendar of Events page

Intranet (Internal to the City)

- Health insurance enrollment
- Paperless meetings – City Council agenda and Board meeting agenda with attachments should be electronic instead of current hard copy packets
- ✓ Post project status on Information Technology Requests for Service (SARs) for all to access
- Provide employee training

Policies

- All staff should use voicemail
- Remove all archived documents to off-site location
- Set a defined Open Records standard

Public Safety

- Access for Animal Control to live warrant listings so they can check it before responding to calls
- Bar code scanning of vehicle ID and DOR license interface into report program
- Check warrant status - wireless
- Citywide emergency notification system
- Enterprise GIS for the City/Mapping System/Parallel information shared in common format. Statistical analysis ability tied to GIS. Pictometry tied into the system for immediate use. Mobile application preplan for Fire Management, Crime Scene Management (Incident Command Applications)
- Field review of Police Reports – wireless

- ✓ Fire Prevention pentablet computers
- Fire service “tele-staffing” (computer based telephone answering and tracking system for staff to schedule time off that will save multiple manhours)
- High speed Hot Spot locations throughout the City of Independence
- Improve appearance, readability, and customer friendliness of Police PACE reports
- Paperless tickets
- Personal laptop issued to Police Officers
- Put all accident report information into PACE
- SCOUT integration into public safety
- Web site for “virtual volunteers” for Fire, Emergency Preparedness, and Police to give volunteers ability to access records from home during disaster situations

Utility

- Debit/ATM payment capability in the field - plug into cell phone to accept credit/debit cards
- Read Power and Light and Water meters via telephone lines or wireless technology

Other Technology

- Electronic approvals of all documents
- Mobile terminals

Public Safety

- ✓ Completion and support of Citywide radio system – inventory control, equipment, vehicles, maintenance
- Emergency Communications Center and Emergency Operations Center replacement
- Hands free operation for telephones – cell and mobile
- ✓ Police CAM – Virtual Ride Along
- Wireless headsets for Police Communications

ADDENDUM B

Central Site Application Software

Integrated Public Safety

Photo Imaging	(New World)
Police/Courts	(In House)
Police In-Car Video System	(L3 Communications)
Property Room Barcode	(New World)
Public Safety	(New World)

Financials, Payroll and Human Resources

Accident & Injury	(In House)
Accounts Payable	(JDEdwards)
Accounts Receivable	(JDEdwards)
Action Forms	(In House)
Budget Preparation	(In House)
Fixed Assets	(In House)
General Accounting	(JDEdwards)
Payroll	(JDEdwards)
Position Management	(In House)
Purchasing	(JDEdwards)
Time Entry	(In House)
Table of Organization	(In House)
World Writer	(JDEdwards)

Billing and Customer Information

Credit Card Processing	(VeriFone)
Interactive Voice Response	(iMessaging)
Meter Data Collection	(Itron)
Utility Billing	(In House)

Cash Receipts

Municipal Court Cash Receipts	(In House)
Revenue Collector	(System Innovators)

Health

Code Enforcement	(SunGard HTE)
Code Enforcement Field Inspection	(In House)
Food Handler Class Registration	(In House)
Student Health Survey	(In House)

Licensing and Community Development

Building Permits and Inspections	(SunGard HTE)
Business Licensing	(In House)
Contractor Licensing	(In House)
Employee Permits	(In House)
Land Management	(SunGard HTE)
Liquor Licensing	(In House)

Inventory Management

Plant Maintenance Inventory	(Marcam)
P&L Material Management	(In House)
Water Material Management	(In House)
WPC Material Management	(In House)
WPC Maintenance Management	(CMMC Global)

Voter Information and Registration

Voter Registration	(In House)
--------------------	------------

Report Management

DocView	(Open Text Corp)
ShowCase Query Tool	(SPSS)

Paging

Paging	(MessengerPlus)
--------	-----------------

System Management

Data Encryption	(PATownsend)
Dynamic Menu	(In House)
Job Scheduler	(In House)
Program Security	(In House)
Remote Request Security	(PentaSafe)
Tape Management	(LXI)

Web Services

iSafari Servers	(AdventureTech)
-----------------	-----------------

Help Desk and Service Request

Call Log	(In House)
Service Action Request	(In House)

Other

Dial A Ride	(In House)
-------------	------------

Languages Used

RPG, COBOL, C#.NET and Visual Basic.net

Lan and PC Based Software

<u>Application</u>	<u>Source</u>
Animal Records Management (PC)	Business Computing
Burial Property Management (PC)	CemSoft Systems
Cash Receiving (Server)	Revenue Collector-System Innovations
Code Master/City Code Records (Server)	Book Publishing Co.
Customer Service Voice Recording Win/VCL	Digital Speech Systems, Inc
Environmental Inspections (Server) (used for restaurants)	Sweeps
Fleet Controller - Central Garage (Server)	CFA
Fleet Controller - Fire and P&L (Server) (includes Parts Inventory)	Fleet Computing Int.
Fire Records, Inspection, Training	FireHouse
GroupWise	Novell
HVAC Management	Automated Logic
iNovah/ICVerify	System Innovators
Internet Filtering	Websense Inc.
L3 In-Car Video WiFi	L3
Mellinium Security Management	KABA IILCO
Milestone XProtect Video Surveillance	Pomeroy
MuniAgenda	MCCi (Municipal Code Corporation, Inc)
NotifyLink Blackberry Support	NotifyLink
Plant Maintenance/Water Dept (Server)	Project Software & Development Inc
Police Digital Darkroom System	Police Central
Police Intelligence Analysis Software	I 2
Police Inventory Asset System	Strategic
P&L Distribution Dispatch RDS/EDS	Custom Developed.
Public Works Asset Management	Cartegraph Systems
RecTrac	Vermont Systems
Trimble GPS Software	Trimble
Water Treatment Plant Management	ALLMAX Professional Solutions
WEBEOC	EIS
WIN Series Voice Call Logger (Water)	Digital Speech Systems
WPC CityWorks	Burns & McDonald

GIS (Server)

ARC Info and ARC View

AutoCad Map

Environmental Systems
Research Institute
Auto Disk, Inc.

ADDENDUM C

Current Internet Services

- Animal adoption
- Archive City Council Agendas (searchable)
- Building Permits(Electrical, Mechanical, and Plumbing)
- Building Permit Status
- Business License application and renewals with payment
- City Budget
- City Code with browsing capability
- City Council Agendas
- Code Enforcement complaints
- e-Bill for Utilities
- Employee Permit application and payment
- Employment opportunities
- Frequently asked questions – Citizen Information Page
- Government links to:
 - Birth, Death, Marriage certificates
 - Real estate property information
 - Personal Property information
- Liquor license application, renewal and payment
- On-line application for employment
- Municipal Court date information
- Planning Commission Agendas
- Press releases (instant messaging)
- Report Barking Dogs
- Report Police Officer Misconduct
- Report Police Officer Commendation
- Report Smoking Ordinance Complaint
- Rental Property Owner License application, renewal, and payment
- Request for service/information from citizens
- Restaurant inspection information
- Traffic and Parking Tickets (payments)
- Utility bill historical data
- Utility bill presentment with payment

- Vendor Registration for Purchasing
- Voter District Locator
- View Property Maintenance Violation status
- Sign up for Parks & Rec programs
- Report Police Officer Commendations/Complaints
- Webcast Council Meetings
- Zoning Information (Searchable)

ADDENDUM D

Current Intranet Services CityNet Features

Department Pages	Newsletters
City Clerk	CityScene
Finance	Insight
Human Resources	City Calendar
CityHire	Holidays
Technology Services	Upcoming Events
Submit Programming	Resource Center
Service Requests	Find a Form
View Programming &	Useful Web Sites
Help Desk Requests	Graphics Library
View Statistics/News	Price Agreements
HR Online	Employee Directory
Open Enrollment Information	Names
Health Insurance	Phone Numbers
Benefits	Departments
Staff	Position Titles
Employee Development	Policies and Procedures
Record	Boards and Commissions
Union Employee	Good News Articles
Performance Review	City Charter
Job Opportunities	Employee of the Month
Management System	Article
My CityNet	Pictures
Payroll Information	KC Phone Book
Current Leave Balance	MuniAgenda
Task List	COMET
Wellness Committee	Knowledge Base
Healthy Habits	
Articles	
Upcoming Events	
Names of Members	