

# **City of Lawrence, Kansas**



## ***E-Government Strategic Plan***

***July 31, 2002***

**E-Government Strategic Plan  
City of Lawrence, Kansas  
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## I. Vision

The City of Lawrence defines E-government as a set of government services for residents, businesses, and employees that would be available over the internet on a 24/7 basis; a tool that will provide these services from any Internet connection whenever the customer needs it. Our citizens are increasingly demanding the availability, speed and convenience of online services that E-government can provide. Job schedules, commuting, and family responsibilities often make conducting government business during office hours inconvenient. In response the City of Lawrence will use available technologies to help remove the common barriers that hinder citizen access to public services.

**“The City of Lawrence, Kansas will provide 24-hour digital accessibility to its information and services by providing its citizens, businesses, and employees a secure, convenient technology that is responsive to community need. “**

Supporting goals and principles:

- **24-hour access**  
Hours of operation, travel time, and vehicle parking become non-issues with E-government services. Our goal is that citizens will be able to conduct City business at any time day or night from the convenience of their home or office.
- **Easier accessibility to timely information**  
Information and data maintained by City departments is subject to change literally by the minute. As this information changes, we will enable our customers to retrieve the most current information from City databases.
- **Reduce travel requirement**  
E-government services should significantly reduce or eliminate the need for citizens to travel to a city facility to conduct government business. Information retrieval, bill payment, or communicating with City officials will not necessitate traveling any further than the nearest Internet-ready personal computer.
- **Responsive to need**  
E-government also means “online not in-line”. Waiting in line to register for a recreation class or to pay a utility bill will no longer be a barrier to prompt service. This more efficient service translates into time and money saved for both the customer and the organization.

- **Convenient technology**  
A service that is difficult to understand and use is no service at all. Our E-government systems will be easy to understand and to navigate. Our information will be geared toward the customer and not toward internal departmental structures. Web pages will be intuitively designed such that a novice will have little difficulty in completing a transaction.
- **Ensure system security**  
Our customers must be confident in the security and privacy of their web transactions and know that their privacy is protected. Appropriate security measures including firewalls, data encryption, and a security policy will be used to protect web transactions.
- **Provide timely information to employees**  
Information and services will also be provided internally to City of Lawrence employees. Personnel information including benefits, forms, newsletters, policies and other communications will be made available on the City Intranet in an organized fashion for employee use.
- **Reduce paper use and storage requirements**  
Our E-government services will make use of electronic forms and online applications whenever possible to help reduce the use of paper documents. Existing imaging technology will be considered for web integration to store and display documents for public use.
- **Accessibility**  
The availability of computers with access to the Internet needs to be enhanced so that E-government services are available to everyone. Computer kiosks will be evaluated to provide access to the City Intranet for employees and web site for citizens.

## II. Community Needs

The E-gov Committee approach to identifying community needs focused on two areas. The first was the community's capability for broadband access to the Internet. The second was the applications that were desired to be Internet based. The committee addressed the first issue by meeting with local representatives currently involved in Internet activity. The committee addressed the second issue by holding a public forum to solicit ideas on future applications. An E-government survey was also developed and made available in selected locations, on the City's web page, and inserted in our customer's utility bill. Finally, the committee developed a method to prioritize identified needs and select an order of possible implementation.

### Capabilities

On October 26, 2001, the E-gov Committee met with a group of individuals involved in Internet readiness and implementation. Individuals who participated included Bob Zook, SBC; Hal Hodges, USD 497; Tom Pagano, LMH; Laurie Sevedge, Hypervine; Alecia Janesco, Chamber of Commerce; Jim Lawson, Douglas County; and Jeree Catlin, Kansas University. The group utilized the Computer Systems Project (CSPP) Readiness Guide to assess the City of Lawrence's readiness for e-commerce. The following information summarizes the results of this meeting. A more complete account of the meeting as well as the meeting's minutes is found in Attachments A and B, respectively.

The CSPP Readiness Guide was developed to help communities conduct a self-evaluation of their readiness to engage in Internet transactions. The first area evaluated was the **Network Infrastructure**. To conduct Internet transactions efficiently, broadband access to the Internet is desirable. Lawrence was found to have nearly 100% of residential property with access to cable modems for broad band Internet access. A smaller number of homes had access to the Internet with DSL. A lack of competition for DSL services was expressed as a concern. While there was more competition in the wireless area, access to high-speed wireless networks was limited.

**Network Access** to the Internet was also evaluated. Access was very good in the school and health area, but more limited in the business and home area. While a more complete survey of business access is needed, those present felt that more employees needed e-mail and Internet access for Lawrence to qualify as being ready for Internet transactions. It was also estimated that less than 80% of homes in Lawrence use the Internet.

The area of **Network Applications** was evaluated as Lawrence's weakest with fewer than 10% of business transactions being done online. Government online service was also less than desirable because of the

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limited number of organizations that managed information online. Schools fared somewhat better, but the lack of ability to register for classes online at KU was cited as a weakness.

Another weak area for Lawrence was the perceived lack of a **Networked Economy**. It was thought that fewer than 25% of businesses had transformed their practices due to the Internet. In addition, less than one third of households were estimated to have conducted transactions online.

The guide also covered **Network Convenience** to the Internet. KU and the Library provide public terminals for Internet access. However, privacy and security concerns were expressed over the present use of broadband access. It was felt that individuals did not know how to protect their privacy online or how to adequately secure their network. Business and government leaders need to work together to ensure policies are in place to encourage and support Internet transactions.

Based upon the results of the self-evaluation, the E-gov Committee made the following recommendations:

1. Consider the laying of conduit in new street construction to provide for access to fiber for new office buildings and encourage offices to be prewired for computer networking.
2. Expand the availability of DSL by working with SBC and other providers.
3. Encourage the use of wireless devices for high-speed Internet access.
4. Expand the number of public terminals to provide Internet access on a 24/7 basis.
5. Host a web site development seminar for local businesses and service providers to encourage Internet based transactions.
6. Provide more health related content on local web sites.
7. Encourage broadband Internet providers to educate their customers on security and privacy issues.
8. Lobby the State of Kansas to promote local telephone competition, allow digital signatures, and provide punishment to individuals that disrupt computer networks.

### **Applications**

To develop a list of desired E-government applications, a meeting open to the public was held on November 12, 2001. The meeting was sparsely attended but included representatives of LAN, the League of Women Voters, KU, and the Chamber of Commerce. The meeting provided background information on the City of Lawrence's E-government strategic plan and included a presentation by the City Manager of Lenexa on that city's E-government's initiatives. A draft survey that listed potential E-government applications was also distributed. Because of the low turnout, the meeting failed to assist the E-gov Committee in assessing community needs for Internet transactions.

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To better determine the types of E-government applications the community prefers, a City of Lawrence E-government survey was developed and distributed to individuals along with their utility bill. The E-gov Committee received more than 2500 responses to the survey. A copy of the survey and a detailed summary of the results are included in as Attachment C. The purpose of the survey was to assist in determining the need for E-government transactions and in prioritizing the potential applications.

The survey responses were classified into three categories, Information Requests, Participation Requests, and Transaction Requests. In the Information area, the survey results showed the highest number of respondents desiring to view information on maps, followed by receiving e-mail updates on items of interest. The lowest priority was given to reviewing financial reports.

In the Participation area, the highest number of responders expressed a desire to file complaints online followed by commenting on land use. Low priority was widely expressed for live public hearings over the Internet and the ability to file appeals online. The most popular Internet transaction was to pay utility bills online followed by the ability to sign up for recreation classes online.

It should be noted that the responses were primarily received from individuals paying their utility bill. As a result, most respondents were from residences. Businesses were likely under represented and no attempt was made to differentiate the results by type of respondent. It would be expected that making utility payments online would receive a high priority since that is what most responders were doing when they submitted the survey. Some information and transactions, such as providing financial information to individuals that purchase our bonds and businesses needing building permits, would not show as high priorities. Either those parties weren't included in the survey or their numbers were underrepresented.

### **Priorities**

With these limitations in mind, the E-gov Committee recommends that the City focus on the needs of four different constituent groups; residents, employees, businesses, and community organizations. The desires of the residents were provided by the responses to the E-government survey summarized above. Business needs may require additional study to better identify the desires of that group. The needs of employees have been the focus of the Administrative Services Director and the Employee Relations Council. Additional information on how to meet these needs through the development of an Employee Intranet is included in the section entitled *Internal Needs*. The needs of community organizations coincide to some degree with those of residents. However, each organization will have unique needs that may be addressed by inclusion on the City's web pages. A

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determination of these unique needs will require meetings with each group and an evaluation of the costs and benefits of providing the desired information, participation, or transaction.

In determining which applications to implement, consideration should be given to both the importance of the application and the difficulty in providing the information or service. The E-gov Committee evaluated Internet applications using a matrix. The matrix consisted of two measures, criticality (the importance of the service) and the Innovation (degree of implementation difficulty). The resulting Analysis Matrix is included as Attachment D. The Innovations Group recommends that organizations first implement applications that are low in criticality and low in innovation. Services that are not critical to the individual participant and are easy to implement should be the first ones selected for implementation. Projects ranked low/low are typically less costly to implement as well.

Other factors to consider when prioritizing community needs include:

1. Does the application lend itself to automation?
2. Are essential computer systems in place to process the information?
3. Does the project involve more than one department?
4. Are there sufficient technical skills available in-house to implement the project?
5. Does the project provide immediate benefits to the community?
6. Does the project require changes in the organization to implement?

The above factors should serve as a guide when prioritizing the order that identified community needs are met. Other considerations such as costs and other barriers are described more fully in the *Costs* and *Barriers* sections of the Strategic Plan.

Finally, in order to meet community needs, not only must the appropriate applications be in place, but also the public must be aware of its availability. Any E-government application will need to be marketed to the constituent group. This will involve research on the part of City staff to identify the best method to inform the groups of the availability of the new service. Additional information on implementation strategies is found in the *Implementation* section of the Strategic Plan.

### III. Internal Needs

A City of Lawrence Intranet would use the same technology as the Internet, but in a local environment for use by City employees. The Intranet would be an important information, communication, and transaction tool within the City of Lawrence. As the City workforce continues to expand to meet the growing demands of the City, one of the greatest challenges is to effectively distribute information to employees and to establish effective two-way communication channels with them. Employees would be able to "browse" the Intranet to view current information, such as personnel policies, employee benefits information, training materials, calendars, commission agendas and minutes, and phone directories, etc. It would also be possible to post documents for employees in other departments to review or edit but limit access to specific employees (e.g., benefit district documents reviewed by staff in Legal Services, Public Works, Finance and the City Clerk's Office). Announcements could also be posted such as notice of construction projects, waterline breaks, and traffic signal repairs.

As a result, costs associated with information distribution, communication, and transactions can be reduced by using this technology. The Intranet could also play a primary role in employee education and training by making distance-learning resources available.

Two brainstorming sessions were held to gather ideas and discuss possible Intranet subjects. On November 2, 2001 the Administrative Services staff met to discuss Employee Intranet applications. On November 21, 2001, the Employee Relations Council also met to discuss Intranet possibilities. Among the various items discussed by staff and the ERC were:

- A front page with direct access to common applications such as a telephone directory, City Commission agendas and minutes, employee handbook, and access to subject matter by department;
- A search capability;
- Access to personnel related information (e.g., benefits forms and information) and eventually the ability to update personal benefit information (e.g., change beneficiaries,)
- Access to Payroll information including the ability to eventually fill out timesheets and submit vacation and timesheet information;
- Access to the City newsletter (Phoenix) and a location for important news or announcements;
- Training and education information, including possibly a training library or Learning Center

The E-gov Committee believes the most practical implementation, given current budget and staffing issues, would be a two-phase implementation process. Phase I would involve initial set up with only informational or

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communication documents (i.e., access to information but no transactional or interaction processes). Phase II would include the purchase and installation of necessary hardware and software to perform transaction and interaction processes such as training enrollment, benefits enrollment or changes, personnel related information (e.g., changing home address or phone number) and payroll-related changes, etc.

Much of the information that would be included in Phase I of the Intranet is already available in public folders on the City Hall Network Neighborhood; however, there is no search capability and therefore it is not always easy to retrieve information. The primary benefit of Phase I of the Intranet is to make information more accessible and easier to find. This improved access would help to increase employee productivity since employees would spend less time searching for the information or requesting another employee to find it.

Further, customer service is likely to be improved since employees would be able to locate general information or information from another department and provide it to citizens or co-workers rather than passing the caller on to someone else. In addition, with increased access to employee documents, fewer printed copies would be needed thus reducing printing and costs of large documents such as the Employee Handbook.

Another important benefit is that the Intranet should reduce the number of telephone calls to Administrative Services staff (primarily Personnel staff). In addition, with a centralized location for this information, employee communication should improve.

#### IV. Barriers

A primary barrier to implementation of E-government applications is providing the initial funds for implementation and the operating funds to continue to support and maintain installed systems. Related to this cost concern, is whether investment in E-government applications will provide an appropriate return on the investment. Some of the E-government applications, such as utility billing and Parks & Recreation class enrollment, can be analyzed as to whether the cost of implementing E-government will pay off in either reduced costs or increased revenues. More detailed information on the costs and benefits of selected applications is included in the *Applications* section.

Another barrier to implementation is the staff time necessary to ensure a successful introduction and maintenance of new systems. E-government applications are generally viewed as enhancements of existing City services and activities; there is no immediate requirement to make these improvements. While these improvements will lead to better productivity and efficiency, it is difficult to devote resources to new initiatives while maintaining existing services and activities.

Concerns about security and privacy should also be viewed as barriers to implementation. Increased web-based transactions with the City will increase concerns about the privacy of the financial and personnel information shared via the web. This barrier may reduce actual use if security and privacy concerns are not addressed. This barrier may also lead to possible City liability if appropriate safeguards are not provided.

Another barrier to implementation is the knowledge level of City staff and citizens regarding the use of the web. This fast pace technology and increasing complexity makes it difficult for both City staff and citizens to be fully knowledgeable about how the web site works, how to access the site, and how to respond to problems in usage.

The “digital divide” barrier should also be noted. While Lawrence has relatively high penetration for Internet access and some public access to the Internet (e.g. Lawrence Public Library site), many citizens do not have ready access to the City website. Placing information or transaction ability solely on the website would not provide all citizens with an equal ability to access City services and information.

Similarly, a barrier to implementation is to ensure appropriate access to City website uses for those individuals with disabilities. Legal and practical compliance with this concern will need to be addressed.

There are at least two barriers to successfully implementing an Employee Intranet. First, approximately 67% of full time City employees do not have

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direct access to the City Hall Network Neighborhood, either because they are on a different network (i.e., Police and Fire/Medical employees) or because they do not have a computer (many Public Works, Utilities, and Parks & Recreation employees); therefore, the Employee Intranet would not initially be available to those employees. With this in mind, the Intranet could initially be made available to only those employees with a computer as a pilot program. While there are security issues about whether City employees should access the same network as public safety staff, after the Employee Intranet is operating, software or hardware could be designed to make the Intranet available to public safety personnel as well. A low cost solution would be to place used City computers at convenient locations so Public Works, Utilities, and Parks & Recreation employees could access the Intranet. In the meantime, the Intranet would not be considered the primary means of employee communication.

A final barrier to implementation is the need for a consistent City policy for E-government activities through out the organization. If credit card payments are taken via the website, should a service charge be attached? Should all City payments for credit cards be without a service charge? Other policy concerns include the use of digital signatures, advertising on the web site, and who is responsible for web site design and maintenance. A need for consistent policies and procedures throughout the organization is apparent.

## **V. Technology Infrastructure**

The City of Lawrence has developed its computing infrastructure over a number of years. The following information itemizes the City's hardware and software components that effectively and securely transmit data and voice between departments.

### **Communication Infrastructure**

The City of Lawrence makes use of a variety of telecommunication methods for voice and data. All communications occur over an infrastructure mix including: (1) fiber optic cabling; (2) T-1 circuits; (3) Integrated services digital network (ISDN) circuits; (4) wireless local area networks (LAN); (5) cable modems; and (6) plain old telephone service (POTS) analog lines. Data connectivity to over 30 City facilities is accomplished using these technologies. ISDN is currently the primary connection method between City Hall and other city buildings although fiber and cable modems are used in four locations. The Police department has deployed a wireless network for communicating with officers near the two Police Department buildings. A T-1 connection to the Internet Service Provider Hypervine.net provides Internet service to City departments. A graphic depicting the communication infrastructure is shown in Attachment E.

The City of Lawrence connects to the Internet via a Cisco router and has several security layers in place including the following: Linux IPTables, a Cisco PIX firewall, intrusion detection software, virus protection, blocking of potential virus-carrying file attachments, blocking e-mail spam sites, blocking inappropriate web sites, and nightly backup tape autoloader for file protection. The City Hall building has a Gigabit fiber connection on each floor that connects individual Cisco Catalyst 3524/3548 switches to the fiber backbone. This infrastructure permits switched 100MB connectivity to all desktop computers in City Hall and to the Riverfront offices and training room.

### **Network Operating Systems**

Most department file servers are deploying Windows/2000 or Windows/NT 4.0 as the primary operating system; The Linux operating system is used on a number of web-related servers including the Apache local web server, QMAIL, file transfer protocol (FTP) server, intrusion detection, Squid server (for caching web pages), domain name system (DNS), Websense (web filtering), IPSec (security), and a firewall between Police and Fire network connections. The other primary operating system in use is IBM OS/400 4.5 used on the City Hall AS/400 system.

### **Client Workstations**

Approximately 360 personal computers and notebook computers are supported by the Information Systems Department and are located in the 30 City facilities for use by employees. Police and Fire IT personnel support an additional 140 computers in those departments. Most desktop computers are running Windows/2000 or Windows/NT 4.0 with a few older computers using Windows/95. Minimum specifications for computers purchased in 2002 are 1.8GHz processor, 512MB RAM, 20GB hard drive, 100MB network interface card, 19" monitor, 52X CD drive, and 64MB video card.

### **Applications**

City-standard desktop software includes the Microsoft Office 2000 suite containing the applications Access, Excel, PowerPoint, Word, and Outlook. E-mail service is provided to employees using Microsoft Exchange 5.5 and the Outlook e-mail client. Other standard software includes the Microsoft Internet Explorer 5.0 (or higher) web browser, and IBM Client Access Express for accessing financial information on the City Hall AS/400. A document imaging system (Optika Acorde) stores and retrieves documents for various departments. Invoices, building permits, court documents, legal documents, and planning records are among the document types stored in the Optika imaging system. For geographic information (GIS) data and map retrieval several departments use Arc/Info and Arc View from Environmental Systems Research Institute. Other department-specific applications are also in use by a limited number of computers such as Vermont Systems' RecTrac for Parks and Recreation class enrollment, CompuCourt for Municipal Court records, H.T.E. Fires Records Management system for fire incidents and inspections, Peregrine Systems Fleet Management for vehicle management, and Dorn Technology Risk Management for worker compensation/accident management. System data backups are managed by Veritas Backup Exec software. Recently acquired Heat Help Desk software is being used to record and track computer repair incidents.

### **Training**

A 12-student training classroom is available for employee education. This facility is equipped with 12 Pentium 933Mhz, 256 RAM computers and 1 instructor computer with Microsoft Office 2000 installed. An overhead projection device, 30" television and VCR, Elmo projector, whiteboard, and conference telephone are also installed. The City annually contracts with an area software-training firm to conduct approximately 40 classes on Microsoft Office applications. Additional specialty courses in HTML and other web development courses are also offered.

### **Internet Presence**

The City of Lawrence has had a web presence for several years. Initially the Lawrence Public Library and City departments joined forces to host web information jointly under the Lawrence Cybervillage portal. In 2001 the City created a separate site under the domain [www.lawrenceks.org](http://www.lawrenceks.org). An HTML-trained employee from each department is largely responsible for creating and maintaining departmental content. The City's communication coordinator and administrative intern maintain the main page and handle special web projects for the City Manager's office. Although the amount of information maintained has grown rapidly since its inception, the site is still considered to be focused on information content as opposed to being an interactive site.

### **Planned Technology Upgrades**

Other technologies are currently being reviewed as alternatives for ISDN network connections. Discussions with Sunflower Broadband resulted in proposals for utilizing Sunflower's fiber optic ring around the City for improved bandwidth to remote facilities. The City will also consider installing its own fiber when construction projects open the rights-of-way for street or utility projects. The planned E-government applications are listed in the *Applications* section of this report.

## **V. Applications**

The list of potential E-government applications is extensive. By gathering input from the citizens of Lawrence as well as other organizations with transactional websites, the E-gov Committee was able to prioritize its list of potential E-government applications to the following.

### **Employee Intranet**

A City of Lawrence Intranet would use the same technology as the Internet but in a local environment, accessible only to City employees. Employees would be able to “browse” the Intranet to view needed, current information, such as personnel policies, benefit options, training materials, calendars, commission agendas and minutes, phone directories, etc. Although much of this information is currently available on the Network Neighborhood, it is in a format that makes it difficult and time consuming to retrieve. The improved access of an Intranet would create a more informed and productive employee. In addition, customer service is likely to improve due to the employee’s ability to locate general information or information from other departments and provide it to citizens rather than passing the caller on to someone else. Further, with increased access to employee documents, fewer printed copies would be needed thus reducing printing and document production costs.

### **Utility Billing Online**

The E-government survey results showed that the ability to pay utility bills on line ranked as a high priority for 43% of the responses and as a medium priority for an additional 28%. Paying utility bills on line received the most number of high priority responses. In addition to paying utility bills online, the application would also provide the ability to inquire about account activity and usage history. Currently, customers may pay their bills by cash at the counter, check, direct deposit, telecheck or by credit card over the telephone or Internet.

The City of Lawrence currently has in excess of over 28,000 customers, many of which live in households where both spouses work, often outside of Lawrence. It is difficult for these customers to call or visit the utility billing office during regular working hours. In addition, the Utility Billing Office receives between 4500 and 9000 calls per month, or about 300 calls per day. It is quite common for the utility billing office telephones to be extremely busy and for customers to wait one to two minutes prior to the service

representative speaking to them. On busy days it is not unusual to have 15-20% of our callers hang up before their call is answered.

The customer would benefit by having the ability to inquire about their utility bill activities 24 hours a day and pay their bill from the convenience of their home. This could result in significant timesavings as compared to driving to City Hall or waiting on the telephone. They would not have to schedule time during working hours to contact utility billing personnel. In addition, by seeing their account information in tabular or graphic format, they will be better able to understand their account history in comparison to a verbal explanation over the telephone.

Customer service representatives will have fewer routine calls to handle and have more time to discuss problem issues with customers. It may also be possible to avoid mailing utility bills by e-mailing them to the customer. The savings on paper and postage could be significant. The paper stock and mailing cost for each utility bill is about 45 cents. If utility billing staff can e-mail 5% of our customer's their bill and not print them, the annual cost saving would be approximately \$7,500.

### **Recreation Classes Online**

In 1997 the Lawrence Parks & Recreation Department began using the recreation software RecTrac. This program has allowed the department to increase the number of enrollment sites as well as the number of hours that enrollments are accepted. However, even with this increase in enrollment options 73% of those Lawrence residents surveyed expressed high to medium interest in online registration. Vermont Systems, which produces RecTrac, also manufactures an online registration module entitled WebTrac that would interface with our current software and allow us to begin processing online registrations with relative ease.

The benefits of an online registration are two fold. First, it would allow our customers with web access to enroll in Parks & Recreation activities at their convenience, 24 hours a day, 7 days a week. Customers would be able to review enrollment history and send e-mails to recreation staff. They would also have access to the most current class and league schedules and information. E-mail alerts could be automatically sent out to remind people of new classes and deadlines.

Secondly, online registrations would significantly reduce the workload of enrollment staff. The amount of walk-in enrollment will be significantly reduced as well as mail-in. This will free up staff to serve the customers who use our centers everyday.

### **Internet Mapping**

This application would deploy existing City geographic information systems (GIS) data to the web for use by anyone with Internet access. The E-government survey ranked the ability to view and request GIS-developed maps and data from the City's Internet site as one of the top three high-interest applications. The City's E-Gov Committee also selected the Internet Mapping application as candidate for early deployment. There are several options for deployment, ranging from full implementation with outside consultation to third party hosting of the application. Possible data layers to include for public access are:

- City limits
- Parks
- College campus boundaries
- Section-township-range lines
- Subdivision
- Census tracts
- Streets
- Schools
- Water bodies
- Aerial photography
- Political boundaries
- Zoning
- Land use

Other data layers, such as benefit district boundaries and projects locations, could be shown as a tool to provide citizen notification or participation.

Placing GIS on the web would reduce the foot traffic and calls to City Hall, allowing staff to be more productive. The public would have 24 hours a day, 7 day a week access to GIS information with nothing but a standard Internet browser.

### **Web based Agenda**

Every Thursday City staff prepares the City Commission agenda for the following Tuesday meeting. The preparation process involves coordinating agenda requests and supporting materials for all City departments and citizens groups. Materials are reviewed and approximately 30 sets of the entire agenda are made for Commissioners, staff, media and citizens. Currently, the weekly agenda is posted on both the City's website and the City's cable channel. Occasionally, a selected staff report or proposed ordinance is also placed on the City's website. Prior to the meeting, staff in the City Manager's office receives requests concerning agenda topics and supporting materials. The Web based agenda application would make it easier for citizens to access information and allow for more informed discussion on important topics.

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With a Web based City Commission agenda, all of the materials for a particular agenda are placed either on the City's website or on a CD-ROM. It is the recommendation of the E-Gov Committee that if a Web based agenda is adopted that it be a web-based system to allow for greater public accessibility.

### **Jobs Online**

Applicants for City of Lawrence job openings can currently view a list of job openings and position descriptions online. However, to apply for a position, the individual must either print the application on their printer and hand write the requested information or edit the application in Word and attach it to an e-mail. Unfortunately, staff in personnel must then enter all of the information in the City's applicant database manually. The requested application will allow applicants to fill out the specific job application online and for the information to automatically update the personnel database.

### **Construction Progress/Permit**

The E-government survey results indicated the review of construction projects/permits ranked as a high priority for 24% of respondents and a medium priority for approximately 36% of respondents. The proposed application would also include inspection results for the various projects. Clientele for this service will be primarily builders, architects, engineers and citizens interested in specific projects.

The City of Lawrence issues over 3000 building permits per year. Contractors typically call to inquire about the status of the building permit application. In addition, citizens inquire about the status of certain commercial projects. The required staff time utilized to address the variety of questions is significant.

Inquiring customers would benefit by accessing the information online at their convenience. Accessible information may include a history of building permits, inspections and building permit applications. This option would also be helpful to architects and engineers as a means of tracking the building permit application and plan review process. The system will not only provide information to the public, but will also allow the department to manage the permit applications, structure specification and permit information. In addition, the need to contact the department for a status report of application submittals and construction projects may be minimized thus allowing staff to dedicate time to other issues. It is also anticipated that compliance on the part of citizens to obtain required permits will improve.

## VII. Implementation

Members of the E-gov Committee are the primary driving force for the E-government implementation strategy. The City Commission has been apprised of the initiative and has indicated support to pursue the project. E-gov Committee members are representatives of various city departments and have been active participants throughout the E-government project. The members of the E-gov Committee are listed in the section entitled *E-gov Committee Members*. For the initial implementation, participation is limited to departments within the city interested in providing online transactions and information to the public.

The Information Systems Department will be the lead organization for the E-government program. The implementation strategy will utilize existing staff in the development of the initial services. Subsequent development may require the hiring of additional staff. Initial services will include the web site inclusion of E-government options as identified by the E-government survey and defined in the following paragraphs. When payment processing becomes available, external service providers may be needed to process credit card payments. In addition, utility billing, recreation class scheduling and construction progress/permit will require external service providers. The construction progress/permit component will be addressed with the purchase of software for the Neighborhood Resources Department currently being reviewed by the City Commission for the 2003 budget year.

An effective E-government program will depend on an understanding of customer needs. A survey to identify E-government applications was available on the City's web site and distributed in utility bills. Results were then entered in an analysis matrix defined by high and low determinants of Criticality and Innovation. See Priorities in the *Community Needs* section for more information on the analysis matrix. The E-gov Committee identified the following projects to be included in the Strategic Plan.

1. Employee Intranet – The ability to effectively communicate with employees at their convenience will be beneficial to the organization. Policies and procedures can be more readily available. Personnel and payroll changes can be made in a more efficient manner. Staff time can be used more effectively and communication capabilities will be improved.
2. Utility Bills Online – A multi-purpose item and one receiving interest by the E-gov Committee and survey respondents; this option could reduce costs associated with the current process. The current process utilizes the traditional form of payment and contacts with office personnel. An added bonus to this option is the ability of customers to view account history and consumption.

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3. Recreation Classes Online—This function was supported on the survey as a high interest item. Currently, staff is looking at purchasing WebTrac to work with the existing RecTrac software. The option will be likely result in working with a third party vendor to process payments.
4. Internet Mapping – As an item receiving very high interest in the survey, this function could be utilized immediately through a simple design. Additional mapping options may be added as requested. Available with this function would be a City map that would indicate various planned construction projects, school districts, city limits, streets, bike paths, etc.
5. Web based Agenda – This item was considered by the E-gov Committee, not only due to community involvement, but also because it was viewed as being supported by the City Commission.
6. Jobs Online – The E-gov Committee discussed this more complex option and may utilize other templates, more commonly in use by The KC Star, Sedgwick County and other cities in the region.
7. Construction Progress/Permits – This function would provide information to customers regarding proposed and ongoing city projects. In addition, other projects for which building permits have been secured may be included for public view.

The impact on the organization will be considerable, as E-government becomes an accepted standard for business operations. Information and services need to be delivered in the most convenient manner to the customer. Several phases will be required to fully implement the list of E-government applications. Implementation phases will include the following activities:

### PHASE I

- Redesign of the city Internet site to incorporate E-government services.
- Develop policies for security and privacy of transactions.
- Develop policies to address payment processing.
- Determine existing mapping capability by reviewing existing software and electronic files.
- Redefine the City Commission agenda process as providing information and supporting documentation to the City Commission and general public online.

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- Establish external provider contact for the processing of online payments.

### PHASE II

- Employees begin to use the City Intranet. Options available will include automated methods of providing and updating information as well as internal services for employees.
- Utility customers begin to pay bills online in addition to reviewing accounts and history.
- Employees will begin to build and use a central forms repository to more efficiently process and route internal forms.
- Citizens will be provided the option to sign up for Recreation classes and make payment online.
- Citizens will be able to view mapping of the City with different sets of attributes, such as schools, recreation areas, and governmental facilities.

### PHASE III

- Employees begin use of interactive kiosks throughout various city facilities.
- Partnerships developed with various external agencies.
- City Commissioners and interested citizens access agenda material online.
- Builders begin to process permits and applications online. Citizens and builders will begin to see building permit status information online.
- Job applicants will be able to submit applications online with the information automatically entered into the personnel database.

Phase III may be additionally developed to include other cost and time saving options to provide enhanced governmental services to citizens on a 24/7 basis. A tentative time schedule for the implementation of the above activities is shown in the *Tactical Plan* section.

## VIII. Costs

In establishing an E-government service, the costs can be incurred in a variety of ways. One consideration is whether to provide the services with in-house personnel or by contracting with consultants. Secondly, the E-government software can be purchased from individual providers or integrated by a third party. Given the level of initial activity and the potential large costs involved in contracting E-government services out, the E-gov Committee recommends that the City maintains its E-government services with in-house personnel. Some contracting out may still be required, such as the web hosting service and specialized programming, but activities such as web page development, software implementation, and maintenance will be provided by existing Information Systems staff. A future consideration is the hiring of a webmaster to coordinate, update, and implement design standards involving the City's web page.

The second parameter is more complicated. The latest in web page development is to utilize third party middle-ware to integrate a web page interface with the legacy system software. This allows for a common look for the customer and eliminates the need to reenter the data manually into the legacy system. To integrate the web based software with existing legacy software, the application program interfaces (API) of the existing software must be provided by the vendor. This may not always be possible. The alternative is to use the legacy software vendor's package to make our existing software accessible over the Internet. In the City of Lawrence's case, both H.T.E. and RecTrac have software packages that can be purchased and installed fairly quickly to allow Internet transactions for their respective legacy systems. The packages are relatively expensive, but do not involve extensive work by Information Systems staff to implement. Another drawback is that the customer will deal with a different interface after entering each system. Also, no common foundation will be created to allow future applications to be installed. In other words, the City will need to purchase the web enabling software on an application-by-application basis.

As part of the budget process, requests were made for E-government applications involving Finance, Parks and Recreation, Neighborhood Resources, Administrative Services, Information Systems, and the City Manager's Office. The Finance Department request involved utility billing inquiry and payment; Parks and Recreation requested online enrollment to recreation classes; Neighborhood Resources wanted online building permitting; Administrative Services requested the establishment of an Employee Intranet and online job applications, Information Systems requested funding for Internet mapping, and the City Manager's Office requested a Web based agenda system. The estimated hardware and software costs for these applications are summarized below.

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For more information on the applications, please review the *Applications* and *Internal Needs* sections.

### Employee Intranet

The application costs include both start up costs and ongoing costs. The start up costs includes the purchase of a dedicated web server, software, and training costs.

	<u>One-time</u>	<u>Annual</u>
Computer Server	\$ 8,000	
Software (search engine)	2,000	
Training costs (IS and department staff keep information current)	<u>2,500</u>	<u>2,500</u>
	\$12,500	\$2,500

It is important to note that there will likely be additional software or hardware costs to implement any Phase II transactional process improvements. These costs will obviously vary depending on the particular transaction implemented and will increase the annual costs stated above.

### Utility Billing Online

H.T.E. has web enabled several of their software products, including the Customer Information System (utility billing). If their product is purchased, the utility billing online application can be implemented in weeks. In addition to the software, the city will need to purchase an application server (computer). The estimated cost of the utility billing application is shown below:

	<u>One-time</u>	<u>Annual</u>
Computer Server	\$10,000	\$ 0
Click2Gov Core Module	6,965	450
Payment Activation	1,280	
VeriSign Certificate	1,200	1,200
CIS utility billing module	<u>13,560</u>	<u>1,800</u>
Total	\$33,005	\$3,450

The net annual direct savings could be \$4,050 per year if bills could be available by e-mail as opposed to regular mail. In addition, there is the potential for significant timesavings on the part of our customers and staff due to fewer telephone calls for account information.

### Recreation Classes Online

The quickest and most seamless transition into online registration would be purchasing WebTrac from Vermont Systems. This module would work with our current recreation software, RecTrac. In addition to this software, a

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server would also be needed. The estimated cost of the entire project is as follows:

	<u>One-time</u>	<u>Annual</u>
Server	\$10,000	
WebTrac Module	9,300	
Annual Maintenance		\$1,590
On-Site Installation & Training	<u>4,240</u>	
	\$23,540	<u>\$1,590</u>

### Internet Mapping

An Internet Mapping application would export existing City geographic information system (GIS) data to the web for use by anyone with Internet access.

The estimated application costs are summarized below:

	One-time	Annual costs
Software licenses –		
ArcIMS	12,000	3,000
ArcSDE	8,000	3,000
MS SQL Server	5,000	
Hardware –	15,000	
Consulting/Training	30,000 <sup>1</sup>	5,000 <sup>1</sup>
Hypervine server co-location	<u>5,000</u>	<u>5,000</u>
Total	\$75,000	\$11,000

**Note:**

<sup>1</sup>Consulting and development costs are estimates and can vary depending upon the number of data layers and complexity of the end product.

The initial implementation of Internet Mapping will be coordinated through the University of Kansas at an approximate cost of \$10,000. In the long term, the City will need to take responsibility for the Internet Mapping hardware and software at the estimated cost detailed above.

### Web based Agenda

The following represents the one-time estimated hardware and software costs for equipping the City Commission meeting room for a Web based City Commission agenda.

**Hardware Costs:**

Notebook Computer	\$	2,300
Notebook Bag		50

## City of Lawrence E-Government Strategic Implementation Plan

Docking station	125
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**Software Costs:**

Microsoft Office 2002/XP Professional	\$	320
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*Includes:*

- Word, Word Processing
- Excel, Spreadsheet
- Access, database
- Outlook, Email
- Internet Explorer, Web Browser

Adobe Acrobat Program	\$	46
ArcReader for GIS Files (Soon to be available)		Free
McAfee Anti-Virus Software		Included
Estimated unit cost:	\$	2,841

5 Commissioners	\$	14,205
City Manager	\$	2,841
2 Assistant City Managers	\$	5,682
City Clerk	\$	2,841
Public Works Director	\$	2,841
2 Students	\$	<u>5,682</u>
Notebooks for City Commission Room:	\$	34,092

Switch to connect to network:	\$	3,500
Install additional network drops:	\$	<u>1,000</u>
<b>Estimated Hardware and Software Cost:</b>	<b>\$</b>	<b>38,592</b>

The cost for additional assistance in agenda preparation is difficult to quantify as noted above. Staff recommends \$10,000 for additional part-time assistance in scanning and agenda preparation. This cost could be monitored to determine the necessity for additional assistance. A high-speed scanner is also recommended with a one-time cost of \$3,500.

### **Construction Progress/Permits**

A system is offered by H.T.E that would provide the information to customers regarding construction projects and permits. The H.T.E. Building Permit system is currently being requested in the 2003 budget for the Neighborhood Resources Department. This system is compatible with the city's existing H.T.E. systems currently in place. Aside from the software purchase and additional option to improve inspector's productivity are field computers to perform inspections, print results, and update the main system. The estimated cost of the system is detailed in the following table:

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	<u>One-time</u>	<u>Annual</u>
Computer server for Click2Gov	\$10,000	
Click2Gov module for BP	7,500 <sup>1</sup>	\$1,350
Click2Gov install & configure	1,280	
Payment Activation	960	
Project Management	5,000	
VeriSign digital encryption	<u>1,200</u>	<u>1,200</u>
Total	\$25,940	2,550

<sup>1</sup>Purchase of HTE's base Building Permit system is a prerequisite of the Click2Gov for Building Permits module (included in Neighborhood Development's 2003 budget request). The \$7,500 pricing show here assumes that Click2Gov for Utility Billing is also purchased.

**Jobs Online**

The E-government solution would allow for a job application to be completed online and then automatically entered in the City's applicant database. Benefits include more complete information on applications, fewer steps to apply, and decreased workload for personnel employees.

The estimated application costs are listed below:

	<u>One-time</u>	<u>Annual</u>
Computer Server	\$8,000	
Software (database)	3,300	
Training costs	<u>1,000</u>	<u>1,000</u>
	\$12,300	\$1,000

## IX. Benefits

Significant benefits of E-government applications are not directly recognized by the City organization; instead it is our customers who are the primary beneficiaries. The amount of time saved in travel and conversation cannot be incorporated in the City's budget. The convenience to the public of 24/7 accessibility is a qualitative measure that is difficult to quantify. In addition to the specific benefits of each application identified in the *Applications* section, anticipated benefits from the implementation of an E-government strategy include:

- **Meeting Customer Expectations.** The City is continually challenged to meet the demands of citizens and employees for access to information and services from any location. E-government applications will eliminate some of the trips to City facilities and reduce telephone volume. In the current consumer oriented society the quality of service is very important. Customers are also demanding that business hours be expanded and products and services be customized. The City of Lawrence is expected to be flexible and responsive to its customers as a service-oriented business.
- **Providing information and achieving compliance.** In the current social and economic environment, information is power. The challenge is to provide information both quickly and accurately and in ways that are accessible to the citizens. An important aspect of E-government applications is the opportunity to increase revenues by making government's responsibilities and services better known. Many citizens find it inconvenient and confusing to comply with established City Ordinances. Examples include security alarm permits and a host of building permits. In addition to educating citizens about the need to obtain a permit, the process can be made available online. A web site that builds a relationship with citizens by providing timely and relevant information can include revenue-generating opportunities based on the information provided. The result may be a better understanding and higher utilization of City services by community.
- **Improved Customer Service.** Providing customers with online service options opens a new channel for customer service. The City of Lawrence needs to ensure that web-based programs offer personalized customer service options and are integrated with existing

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software for communication and transactions. An integrated customer information system provides a "customer-based view" of an individual's relationship to the City of Lawrence.

- **Software savings.** By adopting an E-government plan with guiding policies, software purchases can be evaluated on a new set of standards, resulting in potential savings by ensuring compatible and expandable programs. Software purchases can be managed on behalf of the entire organization, instead of just segments. The resulting purchases may not only be less expensive, but can be used to manage the entire organization more strategically.
- **Time Savings.** By making common transactions more self-service, employees will have more time to concentrate on their regular duties and provide more value added services. With the growth in the population and City staff, departments find it difficult to continue to provide the same level of service with existing staff. By allowing customers to initiate and complete transactions online, staff time is freed up to absorb increasing demands from other sources.

## X. Risk Factors

There are inherent risk factors in any program that has the potential of changing the way an organization operates. E-government will be no different. In addition, the implementation of E-government applications will require addressing specific risks associated with providing more access to City information. A partial list of these risks is provided below:

- **Privacy of information** – Information on customers will be accessible over the Internet. This information may become the target of individual's intent on exploiting any weakness in network security.
- **Security of information** – It is the intent of many of the E-government applications to provide an online payment mechanism. It is extremely important that payment information be secure and only accessed by the responsible parties.
- **Interdepartmental cooperation** - The planning and implementing E-government applications will require the organization to plan how the web interface will be designed, what content will be provided, and how transactions will be processed. The City of Lawrence is a very decentralized organization. The implementation of Internet and Intranet applications will require that various City departments interact in a manner that is different than the current model. Presently the Police and Fire computer networks do not interface with the City's main network, thus restricting Intranet access by Police personnel.
- **Availability of long-term human and financial resources** - To enhance and maintain E-government applications will require significant amounts of staff time and resources for computer hardware and software. Once the customer experiences the convenience of transacting City business on a 24/7 basis, it will be very difficult to not continue. In fact, requests for the expansion on online opportunities will be likely. As more E-government applications are implemented, the impact on the current City staff will grow. At some point, additional staff will be required to maintain the system.
- **Rapidly changing technologies** – The E-government field, like many technological areas, is constantly changing. Prior

investments in hardware and software become less valuable, putting pressure on resources to update to the latest upgrade.

- **Overcoming the “Digital Divide”**- Currently, not everyone in Lawrence has access to the Internet. Public Internet access is available at the Lawrence Public Library and in some facilities at the University of Kansas. However, as more applications become available a decision will need to be made as to whether or not additional access points are desired.
- **Re-engineering government services** - The addition of online information and transaction capability will require that departments redesign certain internal procedures. It is important that online transactions be adequately planned so that the relevant accounts are updated. Since not all transactions will occur over the Internet, the existing methods of processing accounts will need to be continued. In addition, the design of our web interface will need to change to make E-government applications readily apparent.

## **XI. Tactical Plan**

The tactical plan is an attempt to develop a 12-24 month time line for the implementation of the E-government Strategic Plan. As of August 2002, approximately \$38,000 remains from an initial General Fund budget of \$50,000 for E-government activities. In addition, \$100,000 has been tentatively incorporated in the 2003 General Fund budget for E-government implementation. The funding of the Utility billing Online will be allocated to the Water and Sewer Fund. It is believed that this amount is in addition to the General Fund allocation. Additional information on the implementation of E-government applications is found in the *Implementation* section.

Prior to the implementation of E-government applications, policies and procedures covering various aspects of security, privacy, organizational responsibility and prioritization must be established. Secondly, the applications must be prioritized with consideration of the resources available each fiscal year as well as the impact on staff. The time to implement each application must be estimated. Finally, a mechanism for continuing the process must be developed. It is expected that additional applications from departments not involved in the initial process will be proposed. These projects will also need to be prioritized and budgeted within available resources.

A tentative time schedule and budget allocation is shown below:

### **August 2002**

Attend final meeting of Innovations Group/Mid America Regional Council E-gov Strategic Planning Meeting to present Strategic Plan

Meet with University of Kansas about hosting Internet Mapping

### **September 2002**

Present Strategic Plan to Staff and City Commission

Establish Committee to develop E-government policies and procedures (to include policies on security, privacy, payments, and organizational responsibilities)

Review current Web site design to include E-government applications

### **October-December 2002**

Migrate information from the Network Neighborhood to the Employee Intranet

Install Web browser on all personal computers

## City of Lawrence E-Government Strategic Implementation Plan

Review agenda preparation process and explore available Web based Agenda software (may require the development of a Request for Proposal)

Purchase Recreation Classes Online and Utility Billing Online software (\$23,540 from General Fund, \$33,005 from Water and Sewer Fund)

Select vendor for Internet payment processing (if desired)

Redesign Web site for E-government applications (coordinate effort with Douglas County and other jurisdictions)

Purchase hardware/software for Employee Intranet (\$12,500 from General Fund)

### **January – March 2003**

Purchase Building Permit System (2003 Neighborhood Resources budget, a prerequisite to the Construction Progress/Permits initiative)

Implement initial Internet Mapping (\$10,000 from General Fund)

Select hardware/software for Web based Agenda (\$42,092 from General Fund)

Hire Part-time staff for Web based Agenda (\$10,000 from General Fund)

### **April – June 2003**

Market E-government applications (\$3000 from General Fund)

Purchase Intranet computer Kiosks for employees (\$20,000)

Develop outcome measures for E-government applications (measure Internet activity, compare telephone usage, counter activity levels)

Survey Internet users to determine satisfaction level and areas needing improvement

### **July – December 2003**

Prepare criteria for Jobs Online capabilities (may require the development of a Request for Proposals)

## City of Lawrence E-Government Strategic Implementation Plan

Solicit ideas from other departments in order to expand E-government applications to other areas

Select Jobs Online hardware/software solution (\$12,300 from General Fund)

### **January – June 2004**

Purchase Construction Progress/Permits hardware and software (\$25,940 from General Fund)

Purchase Internet computer Kiosks for citizens (\$25,000 from General Fund)

Evaluate/Implement additional E-government applications (\$35,000 from General Fund)

Market E-government applications (\$1500 from General Fund)

Continue Part-time staff for Web based Agenda (\$10,000 from General Fund)

An issue for the Tactical Plan is the need to establish ownership for these implementation steps and the governance of the City of Lawrence's website. Altering the City's website from a "Departmental" organization to a "Service" organization is desirable. For example, as opposed to looking for utility billing under the Finance Department or looking for job applications under Administrative Services, these applications should be readily accessible from the an E-government section of the website under titles such "Water Bill Payments" and "City Jobs." It is recommended that the E-gov Committee currently assembled to prepare the Strategic Plan be continued and that citizen and employee input be encouraged to further refine and improve the City's website and E-government implementation.

## **XII. E-Gov Committee Members**

Dave Corliss  
Ron Hall  
Frank Reeb  
Victor Torres  
Ed Mullins  
Lisa Patterson  
Tim Laurent  
Joe Yager

Assistant City Manager  
Information System Director  
Administrative Services Director  
Neighborhood Resources Director  
Finance Director  
Communications Coordinator  
Parks and Recreation Supervisor  
Finance Management Analyst

The minutes of the E-Gov Committee meetings are provided in Attachment F.