



**City of San Luis Obispo  
Information Technology Strategic Plan  
(ITSP)**

**January 2012**

**NEXLEVEL**

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**City of San Luis Obispo**



# Table of Contents

- Table of Contents ..... 1
- 1 Introduction ..... 3
  - 1.1 City Profile ..... 3
  - 1.2 Background ..... 3
  - 1.3 Technology as an Enabler ..... 3
  - 1.4 Project Purpose and Benefits ..... 4
- 2 Approach ..... 7
- 3 Assessment ..... 9
  - 3.1 Current Environment ..... 9
  - 3.2 Findings ..... 10
  - 3.3 Recommendations ..... 13
- 4 Roadmap ..... 17
  - 4.1 Plan Enablers ..... 17
    - IT Organization Structure ..... 17
    - IT Governance ..... 18
    - Technology Refreshment ..... 19
  - 4.2 Projects ..... 19
    - 4.2.1 Project List by Department ..... 20
    - 4.2.2 Timeline and Costs ..... 28
- 5 Conclusion ..... 31

*NexLevel Information Technology, Inc. assisted the City of San Luis Obispo in the development of this Information Technology Strategic Plan to use as a roadmap to be followed over the next three to five years to ensure information technology effectively supports the City's current and future needs.*



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# 1 Introduction

## 1.1 City Profile

The City of San Luis Obispo (the City) serves as the commercial, governmental and cultural hub of California’s Central Coast. With a population of approximately 44,000, the City is located eight miles from the Pacific Ocean and is midway between San Francisco and Los Angeles. San Luis Obispo is a full-service city that provides police, fire, water, sewer, streets, transit, parking, planning, building, engineering and parks & recreation services to the community.

*Recently named the “Happiest Place in the USA” by National Geographic - Intelligently implemented technology solutions will further promote happy citizens and businesses.*

## 1.2 Background

Based on rapid changes in technology, and the need to utilize technology to enhance staff productivity, in 2011, the City released a Request for Qualifications (RFQ) for an Information Technology Strategic Plan (ITSP). According to the RFQ, the ITSP was to contain the following components:

- ❖ An assessment of the City’s current IT environment
- ❖ Results of interviews with department representatives
- ❖ A Draft ITSP for Information Technology Steering Committee (ITSC) review

### ❖ A Final ITSP

As a result of the procurement, the City selected NexLevel Information Technology, Inc. (NexLevel) to complete the ITSP. NexLevel is an IT Management Consulting company that specializes in helping California municipalities plan for and implement technology. This document presents the resulting ITSP.

## 1.3 Technology as an Enabler

Like most cities, the City of San Luis Obispo has been faced with decreasing budgets and resources. At the same time, technology is progressing at breakneck speed, and citizens have become more technology savvy and expect increased and more efficient services – services that provide information where and when it is convenient for them. While traditional face-to-face connections will always be an option, citizens have been increasingly turning to voice, data, video, and other social technologies as their means of connecting not only with each other, but with their government.

In order to maximize service delivery to its citizens, the City needs to maximize its use of technology – technology that supports specific business objectives, and that would promote employee productivity and operational efficiencies.

To be effective, this approach to and use of technology needs to be supported not only by the City’s executives, management, and staff, but also by the City Council. The technology and its infrastructure must not only support the City’s mission and vision, but also the City’s goals and objectives.



While keeping existing technology services operating efficiently is a top priority, ongoing investments will be required to meet the City's technology vision. While some of the investments will come from currently identified operating funds, much of it must come from additional capital resources, based on the benefits outweighing the costs.

*San Luis Obispo Style—Quality With Vision*

*Who Are We? People Serving People*

*What Do We Stand For? Quality in all Endeavors—Pride in Results*

*Where Are We Going? Into the Future with a Design*

The detailed roadmap pertaining to how the City can get from where it is today to where it wants and needs to be can be found in this ITSP.

### 1.4 Project Purpose and Benefits

Over time, cities typically struggle to keep up with technology demands. Technology needs and reliance exceeds what can be delivered based on the supporting IT organization's resources and capabilities. As shown in Figure 1, the ITSP provides a roadmap that will help the City close the gap between current and future IT needs.

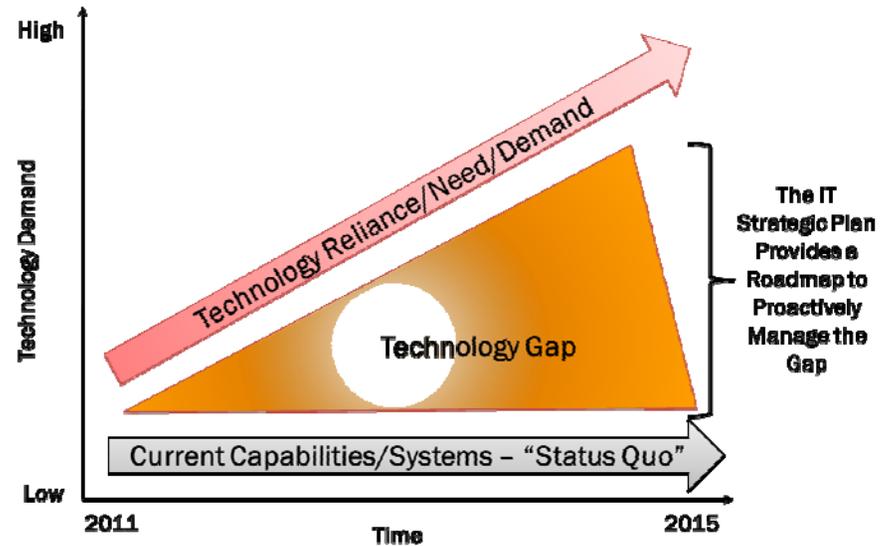


Figure 1 - Technology Gap

In order to complete the ITSP, NexLevel's strategic planning process provided an opportunity for City management and staff to review, discuss, and integrate its technology needs into a common framework. It promoted a common understanding of the City's technology plans and priorities, and served as a tool to provide the City with an overall picture of what is to be accomplished and why.

For the City of San Luis Obispo, the ITSP describes the technology projects, plans, strategies, actions, and initiatives that will provide for the successful operation and modernization of technology within the City IT Department, as well as the other City operating departments, for the next three to five years. The projects typically do not support only one department, but instead, multiple departments or the City as a whole.



The ITSP also includes a project timeline, which addresses project priorities, as well as City fiscal-year budget cycles.

Completion of the projects will help the City to enhance and advance the adaption to, and use of, technology to better serve the citizens and businesses of San Luis Obispo, as the City will become more efficient and effective through the automation of city and department functions.

To maximize its technology investments, the City must procure technology from an enterprise view understanding the value of leveraging existing systems, resources, and expertise. This approach will allow the City to:

- ❖ Promote a common understanding of its technology challenges and priorities
- ❖ Provide a technology framework from which to build
- ❖ Increase the likelihood of attaining the desired results from the implementation of technology
- ❖ Ensure that current technology investments are made within the context of the needs of the entire City
- ❖ Ensure efficient use of technology resources and operations
- ❖ Develop an open technology infrastructure capable of supporting information sharing between departments and external entities (e.g. County, State, and other agencies)
- ❖ Assist management and staff in budgeting and forecasting the impacts of technology

- ❖ Create an increased awareness of the costs, effort, and time required in implementing and supporting technology solutions
- ❖ Increase accountability for technology implementations
- ❖ Promote information sharing through the improved integration of disparate systems, especially across multiple platforms and operational environments

The adoption and utilization of this ITSP will provide the City with a number of benefits including:

- ❖ Improved business operations
- ❖ Improved customer service
- ❖ Reduced operational costs
- ❖ Increased staff productivity
- ❖ Improved succession planning
- ❖ Improved IT project decision making

NexLevel developed this ITSP recognizing the City's budget realities; however, through careful planning and coordination, the City will be able to maximize the return on its technology investment.

Note that the City should complete annual updates to the ITSP to ensure it keeps the City pointed in the right direction. By evaluating progress, while also revisiting goals and objectives, the annual updates will identify any adjustments necessary to keep the City focused on the best outcomes for its citizens.



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## 2 Approach

The ITSP development process was a City-wide effort involving more than 30 City staff representing all departments. It focused on identifying the current IT and GIS infrastructure, current technology issues and needs, and forecasted future technology needs. A goal of the planning process is to identify a “business driver” for each technology need. To support prioritization and planning, it is important that the business impact of any proposed project is well defined because ultimately the return on the investment in technology is defined in business terms.

*Use of a structured planning methodology that was inclusive of every City department ensures a true city-wide plan.*

The information gathered during the planning process, along with data about how other cities are addressing technology needs, was used to identify specific technology projects that provide the basis for this plan. In developing the Plan, where applicable, NexLevel provided expertise regarding best practices and industry standards.

Figure 2 identifies the major activities and general timing of the activities performed to develop the ITSP.

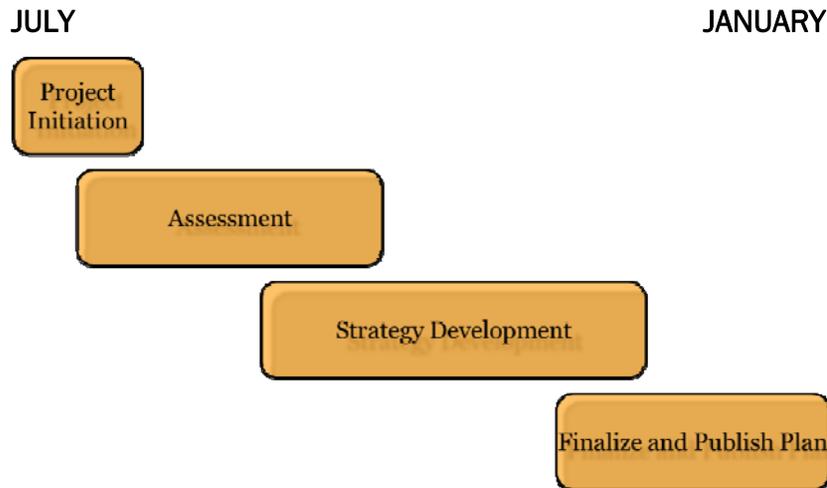


Figure 2 – Timeline of Major Project Tasks

In developing this ITSP, NexLevel facilitated the following activities as organized by the major tasks shown in Figure 2:

**Project Initiation:**

- ❖ Developed Project Kickoff Meeting materials
- ❖ Conducted Project Kickoff Meeting with City management and staff

**Assessment:**

- ❖ Reviewed existing IT Division infrastructure and support organization, including applications, vendors, documentation, policies, procedures, processes, staff, organizational structure, and budget



- ❖ Conducted face-to-face interviews with the Director of Finance/IT, the Information Technology Manager and the GIS and Network Supervisors
- ❖ Conducted face-to-face meetings with IT staff within the support groups
- ❖ Administered web-based IT user survey, with responses from 242 computer users (45% response rate), to identify current technology service levels, concerns, issues, and needs
- ❖ Conducted department interviews to discuss results of survey and identify technology needs
- ❖ Completed industry and peer City research and analysis as necessary
- ❖ Completed a comprehensive IT Assessment Report that provides detailed observations and recommendations specifically related to improvements within the IT Division

**Strategy Development:**

- ❖ Developed Project Listing
- ❖ Facilitated a Project Prioritization meeting with all City departments

**Finalize and Publish Plan**

- ❖ Developed Draft ITSP for review by stakeholders
- ❖ Developed Final ITSP



### 3 Assessment

To complete the assessment, NexLevel used all the processes and data identified in the previous section as part of its strategic planning process. This information was compared against research regarding how other cities are addressing technology needs, and against a series of operational best practices or Assessment Dimensions that represent the roles and responsibilities of a public agency IT organization including:

*A comprehensive understanding of the current technology infrastructure and use provides the foundation upon which to plan.*

- ❖ Governance - The leadership, reporting structure, management overview, and consistent tracking of technology services that ensure end-user business needs and requirements are met.
- ❖ Service Delivery - The function of coordinating the processes involved in providing robust customer technology support including training, helpdesk, and service delivery management frequently based on established service level agreements (SLAs).
- ❖ Applications - The software applications supporting the City, including the individual department operation, by analyzing the application’s strengths and weaknesses, as well as the ability to support future needs.
- ❖ Infrastructure - The technology equipment, operating systems, support software, and communications

network services used within the City to provide computer services to end users.

- ❖ Security – The effective application of policy and standards, user conduct, software tools (filtering, monitoring, etc.), and audits to validate that the City’s material and software resources are used only for its intended purposes.
- ❖ Administration – The management of the IT infrastructure in terms of budgets, maintenance agreements, and software licenses.
- ❖ Documentation – The development and maintenance of current and accurate documentation on all technology activities such that processes can be completed in the absence of any one individual while promoting cross training, enabling backup and recovery, and reducing the risk that can be associated with change.

#### 3.1 Current Environment

The City has over 500 employees that manage the day-to-day operations of the City’s business. Over the last several years, the City has built a robust technology infrastructure to support the staff and business and operational activities the City performs. The following information provides a high-level overview of the City’s technology infrastructure:

- ❖ IT Division consisting of 9.3 FTEs
- ❖ Major business applications including Finance/Payroll (Pentamation), Utility Billing (ACS\*), Asset Management (Hansen), SCADA (Genesis), GIS with integration to FoxPro, Business License (HDL), Recreation (RecWare), Public Safety (Spillman), Time Keeping (IntelliTime),



Permitting (EnerGov), and Imaging (LaserFiche)

\*ACS is currently being replaced with Springbrook.

- ❖ Wide and local area network infrastructure that connects 400+ desktops and laptops - most are Dell hardware and Microsoft software (desktop - MS Office and server - SQL Server) – 70 Smartphone/Blackberry devices, 82 printers, 30 scanners, and 49 MDC's
- ❖ Voice/voice mail system (850 phones), radio system (390 radios)
- ❖ Dispatch center (24x7x365 operation)
- ❖ Internet access
- ❖ MS Exchange Email

The IT Division staff is located in several different work areas. The IT Manager, Network Supervisor, and Application Administrator are located in the Finance/IT Department area (lower level of City Hall). The Network Administrators and Help Desk Technician are located on the first floor of City Hall. The GIS staff is located at the Public Works and Community Development Departments facility.

### 3.2 Findings

NexLevel evaluated the IT Division's use and management of technology and plotted related performance, by dimension as identified earlier in the plan, on a color scale. Figure 3 provides the results of our findings.

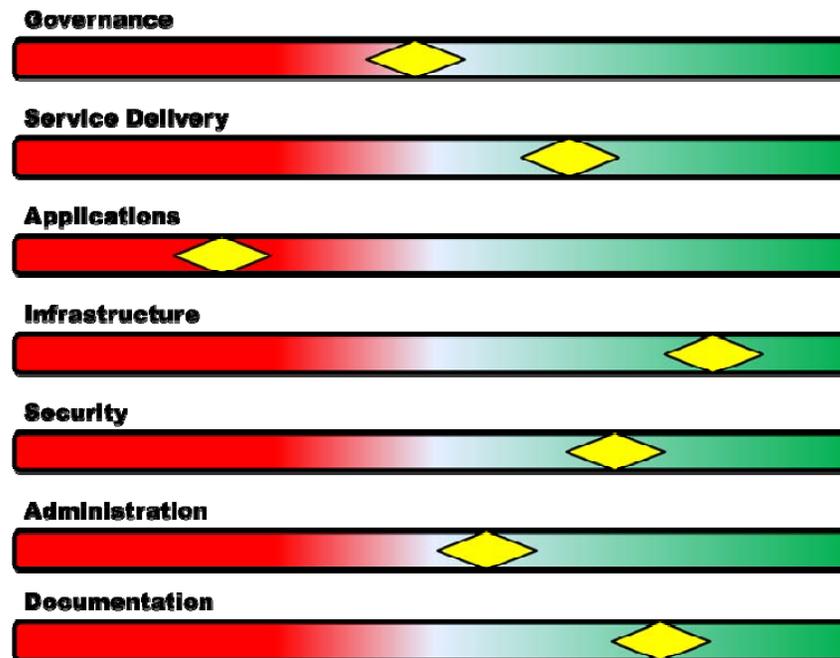


Figure 3 – IT Best Practices Dimension Ranking

With regard to reading the scales, if the IT Division performed consistently within industry standards, it would be at the green end of the scale. If, on the other hand, the IT Division performed at a level that may jeopardize security, risk data loss, computer operations, or service delivery, it would be at the red end of the scale. Any measurement between the solid green and red would indicate the IT Division is not performing at an optimum level, and weaknesses exist that keep it from performing at a higher level.

Applications is one of the most critical assessment dimensions, as the effective selection, implementation, and management of the City's software applications is critical to



attaining a high-level of staff productivity, cost-effective service delivery, efficient business processes, and a return on the City's technology investment. The sum of the City's applications is called the City's Application Portfolio.

To help evaluate the effectiveness of the City's Application Portfolio, NexLevel plotted core applications on a chart where the vertical axis represented "Application Capabilities" (i.e. features and functionality) and the horizontal axis represented "User Effectiveness" (i.e. how effectively is staff leveraging the application). Figure 4, on the following page, plots the City's current application effectiveness.

The chart provides the ability to quickly understand which applications are being effectively leveraged and which are failing to effectively support the City business and operational activities.



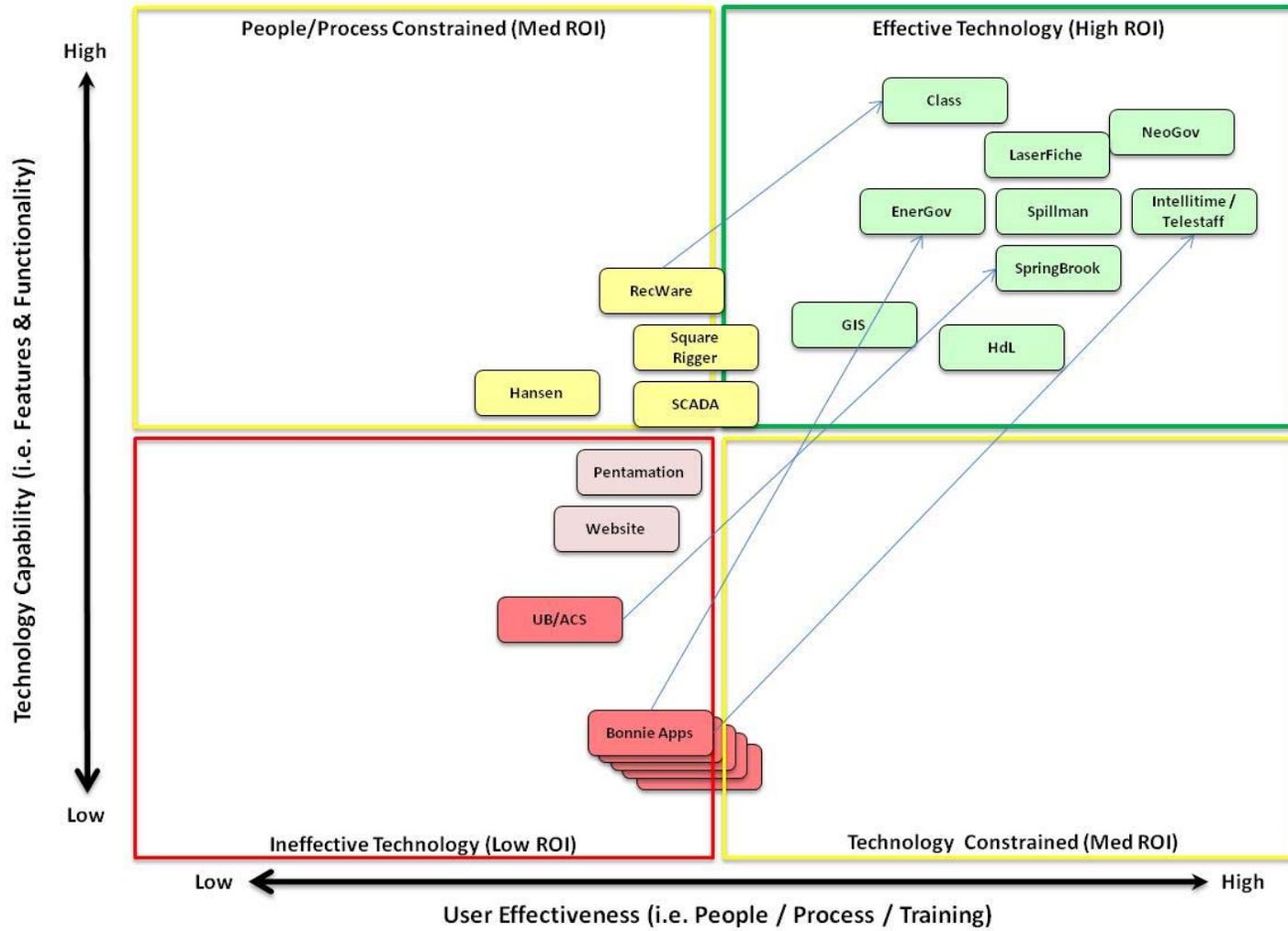


Figure 4 - Application Effectiveness Diagram



### 3.3 Recommendations

Based on the results of the Assessment, NexLevel determined that the IT Division performs well in many areas as described below:

- ◆ The assessment did not identify any critical IT operational issues with regard to the City’s use of technology. The IT Division performs well in service delivery and has a well documented environment.
- ◆ The IT Division is staffed with technically competent individuals who strive to provide excellent customer service – IT users are generally satisfied with IT Division support and services.
- ◆ The City’s technology infrastructure (wide area network, storage area network, servers, desktops, etc.) and security practices are strong and performing as intended.
- ◆ Many of the City’s core business applications are either currently using commercial-off-the-shelf (COTS) solutions or are in the process of migrating to COTS solutions. The COTS solutions that are either implemented or in the process of being implemented are with proven companies (i.e. Springbrook, HdL, Laserfiche, Energov, Spillman, ESRI, CLASS, etc.) and will meet the majority of the user needs.
- ◆ City management’s commitment to the use of technology is strong.

On the other hand, while not immediate threats to technology support and service, the IT Assessment did uncover areas for

improvement. NexLevel’s recommendations, by Assessment Dimension, are shown in the following table.

It is important to note that some of these recommendations will be incorporated into the ITSP as strategic projects while other recommendations will be addressed at the IT Division or department level. These non-strategic project recommendations will be addressed by staff over time. Some will be implemented quickly, while others may take significant planning, hardware/software purchases, and additional personnel resources to execute.



Dimension	Key Recommendations
IT Governance	<ul style="list-style-type: none"> <li>❖ Re-organize the IT organization structure to recognize a Tier I and Tier II help desk role, allowing more experienced resources to focus on more complex and higher value work requests.</li> <li>❖ Re-organize the IT Division into three components; infrastructure, application, and customer service.</li> <li>❖ Implement a formal IT Governance structure that includes re-orienting the current IT Steering Committee to align with best practices for IT Governance.</li> <li>❖ Implement formal Project Management framework, processes, and tools that will work in concert with the IT Governance structure, thus ensuring projects are implemented as authorized by the IT Governance process.</li> </ul>
Service Delivery	<ul style="list-style-type: none"> <li>❖ Consider implementation of a formal training room.</li> <li>❖ Implement Help Desk reporting structure to improve communication, prioritization, and interaction with departments.</li> <li>❖ Evaluate alternative (off-hour) system maintenance to minimize impact to users.</li> <li>❖ Implement basic IT infrastructure change management processes.</li> <li>❖ Leverage Solarwinds to monitor system performance.</li> <li>❖ Perform root cause analysis to evaluate system anomalies and assist in future problem resolution.</li> <li>❖ Centralize system log files to retain full event history.</li> <li>❖ Establish application upgrade policy to keep applications current.</li> </ul>
Applications	<ul style="list-style-type: none"> <li>❖ Continue to keep effective applications current in terms of releases and patches.</li> <li>❖ Continue implementation of Class and the Computerized Maintenance Management System (CMMS).</li> <li>❖ Consider migration of SquareRigger to CMMS or EnerGov.</li> <li>❖ Plan Pentamation replacement.</li> <li>❖ Implement new website based on proven CMS technology.</li> <li>❖ Continue migration of custom developed applications (Bonnie Apps) to Commercial Off-The-Shelf (COTS) solutions.</li> <li>❖ Implement test environments to support core applications.</li> <li>❖ Establish long-term support structure for the existing and future Supervisory Control and Data Acquisition (SCADA) application and associated PLCs.</li> </ul>



Dimension	Key Recommendations
Infrastructure	<ul style="list-style-type: none"> <li>❖ Evaluate the implementation of department collaboration tools (i.e. Intranet, SharePoint, etc.) to help improve inter and intra department communication and project coordination.</li> <li>❖ Complete a Business Continuity Plan and update the Disaster Recovery Plan to include a business impact analysis to help guide recovery strategies and expectations.</li> <li>❖ Relocate the City Hall data center/server room (located outside the Finance Department in the public hallway) to a more secure and suitable location. Make the existing City Hall data center a fiber switching closet.</li> <li>❖ Install adequate emergency power generator to sustain City Hall data center operations and allow for orderly shutdown.</li> <li>❖ Add additional web filtering categories for more effective Internet usage.</li> <li>❖ Evaluate policies and procedures for remote computer access.</li> <li>❖ Reduce equipment refreshment cycles back to best practice ranges as budget permits.</li> <li>❖ Upgrade Cat 3 and Cat 5 wiring with current standards.</li> </ul>
Security	<ul style="list-style-type: none"> <li>❖ Contract to have a network vulnerability analysis and penetration test performed and remediate identified issues.</li> <li>❖ Consider removing desktop administrative rights for users to prevent unauthorized software installation.</li> <li>❖ Implement processes/tools to regularly scan desktops and identify recently added software and review results.</li> <li>❖ Implement disk-to-tape backups with off-site storage.</li> <li>❖ Continue strong antivirus/antispysware practices.</li> <li>❖ Implement a patch management approach and application.</li> <li>❖ Implement an Intrusion Detection System (IDS).</li> </ul>
Administration	<ul style="list-style-type: none"> <li>❖ Establish a budgetary amount for hardware refreshment in each budget cycle.</li> <li>❖ Have the IT Steering Committee, with IT Division input, enforce software and hardware procurement policies.</li> <li>❖ Conduct an annual review of technology contracts to ensure the terms reflect the current needs of the environment.</li> <li>❖ Routinely inventory all software and compare to original license agreements for compliance.</li> <li>❖ Routinely inventory technology hardware to support the hardware refreshment budget.</li> </ul>



Dimension	Key Recommendations
Documentation	<ul style="list-style-type: none"><li>❖ Create technical documentation for all aspects of the IT Division’s day-to-day operation and store in central repository.</li><li>❖ Add documentation requirements to IT job descriptions.</li><li>❖ Update the IT Policies and Procedures Manual.</li><li>❖ Develop new technology polices.</li></ul>



## 4 Roadmap

The ITSP focuses on the identification and definition of citywide strategic IT projects. A citywide strategic IT project is one that has the potential to provide significant benefits to the City and/or its citizens/businesses. A strategic project may streamline existing processes, enable new capabilities to improve service delivery, improve operational processes to allow staff to be more productive, reduce costs to meet budget demands, and/or improve public safety. The primary focus of the strategic planning process is to publish a roadmap that identifies strategic projects that will be implemented over the next three to five years.

*The ITSP provides a 5 year roadmap to take the City's technology from where it is today to where it needs to be to meet current and future needs.*

### 4.1 Plan Enablers

The IT Assessment recommendations will be addressed by the IT Department over time. However, NexLevel believes there are several recommendations that are critical to the overall success of the ITSP, and that these should be addressed as soon as possible to provide the best chance for ITSP success. These deal with IT Organization Structure, Governance, and Technology Refreshment.

## IT Organization Structure

The IT Division reports to the Director of Finance, is staffed with approximately 10 full-time equivalents, and is occasionally supplemented with the use of interns when needed. Overall, it appears that the current IT Division resources are able to maintain a good level of support and are meeting the essential needs of the City. However, due to the current structure, processes, tools, and workload, the IT Division is challenged to be proactive in performing day-to-day maintenance and support activities, as well as new technology project support. With regard to new technology project support, the IT Division needs to be able to provide appropriate technology consultation to departments to fully support the applications, procurement, selection, and project management.

NexLevel makes the following recommendations in terms of the IT Division's organizational structure:

- ❖ Establish a full-time help desk representative who will function as the primary point of contact for all department requests for service. This resource should be provided with the tools and training to be capable of resolving basic desktop requests. The objective should be to resolve as many desktop requests as possible, allowing the network administrators to focus on more complex requests. This resource will also be critical to documenting activities that will allow the IT Division to track and report on support activities, as well as create a knowledge base to help resolve future requests.
- ❖ Re-organize the IT Division to include the following:
  - a. IT Manager – The IT Manager will continue to be responsible for overall IT Division operations and



- service delivery (i.e. staff management, service delivery oversight and direction, issue resolution, budget, etc.). In addition, the IT Manager will be responsible for strategic planning, technology selection/procurement support, IT Governance facilitation, Project Management oversight, and policy enforcement.
- b. Customer Service – This organization will include help desk (Tier I and selected Tier II trouble tickets), project management, and project planning support (i.e. requirements gathering, feasibility analysis, procurement and selection, etc.). Customer Service should provide a centralized help desk to ensure all requests are entered into a help desk system and eventually resolved. The help desk function will escalate tickets to both application support and infrastructure.
  - c. Application Support – This organization will be responsible for working with the departments to maintain and manage business and operation applications. This organization will be heavily involved in the implementation of new applications and will work with the departments and vendors to ensure successful implementation. In addition, Application Support resources will monitor the application/databases to ensure they are running as intended and that applications are kept current in terms of releases and patches. It is assumed that the GIS resources would become part of this group.

d. Infrastructure – This organization will be responsible for the IT infrastructure to include network, servers, data centers, radios, telephone system, backups/recovery, etc.

- ❖ As budget allows, identify additional resources capable of performing application support and project management. The current IT Division does not have adequate resources to perform these functions.
- ❖ As new technology purchases are considered, the City should carefully evaluate the required support from the IT Division staff to ensure successful implementation and reliable ongoing support. If additional burdens on the IT Division staff are a bi-product of the implementation of new technology, the City will need to augment IT staffing levels.
- ❖ Perform a review of IT staff job titles/descriptions and compensation packages based on re-aligned responsibilities. This is important to ensure compensation is competitive with current market to aid in staff retention and reflect contributions to the organization.

### IT Governance

Governance is generally defined as the leadership, reporting structure, and processes that ensure that the organization’s information technology sustains and extends the City’s strategies and objectives.

Currently, the City is using a basic IT governance structure to guide the City’s IT activities. The current IT Steering Committee is chaired by the Assistant City Manager and includes



department Directors. The current IT Steering Committee is helpful in ensuring open lines of communication and providing a forum to guide the City's IT direction. However, the IT Steering Committee appears to be lacking a formal charter that clearly outlines the purpose, processes, roles, and objectives of the Committee. There is no visible method for prioritizing and scheduling IT projects or initiatives from an enterprise perspective. While the IT Division certainly understands the underlying technology infrastructure, it has a difficult time placing major technology acquisitions in a business-based priority for the City.

NexLevel recommends the City formalize the IT Steering Committee to ensure it functions as the oversight body responsible for providing strategic direction and guidance to the IT Division and City departments. The IT Steering Committee should be responsible for establishing the priority of major technology projects, thus ensuring the allocation of IT resources to the highest priorities.

In order for the IT Steering Committee to function as a policy making body, it is important to delegate the technical aspects of projects/initiatives to the IT Division to perform a review and analysis of the specific technical components. The IT Division will be charged with the responsibility of reviewing and approving all technology requests prior to submittal to the IT Steering Committee for prioritization. The IT Division will ensure that requested technology fits within the existing infrastructure, meets current City technology standards, and will be maintained at an appropriate level. Once approved, the project will be submitted to the IT Steering Committee.

Due to the current project activity, the IT Steering Committee should meet on a monthly basis with a formal agenda that

includes a review of existing project activity (i.e. status, project schedule, resources, issues, risks, etc.), a review of IT Division service level results, and a discussion of department technology needs and issues. The IT Steering Committee should provide a forum for the interchange of ideas, review of technical implementations, and facilitate intra-departmental communications concerning project status and IT Division operations.

### Technology Refreshment

The City must continue to invest in the ongoing maintenance and replacement of existing technology. This includes timely replacement of computer (i.e. servers, desktops, laptops, etc.) and network (i.e. switches, routers, etc.) equipment. In addition, it includes timely updates, via software releases and patches, of software applications to remain current with vendor support agreements. The technology refreshment will be evaluated and budgeted for on an annual basis with input from the IT Steering Committee.

### 4.2 Projects

The technology planning process culminated in the identification and prioritization of technology projects that will help ensure that the City's technology environment supports current and anticipated business needs. These projects span across all departments and will improve services, operations, and/or increase the security and reliability of the existing technology environment.

Projects were prioritized based on criteria such as financial impact, health and safety impact, customer service impact, business operations impact, alignment to business vision and



mission, and technology obsolescence. In addition to these criteria, the plan also considered the limited resources (both human and capital) available to implement and manage technology projects.

The ITSP strives to set reasonable expectations as to when the projects will be completed. However, a project’s ultimate start date will be based on funding or budget approval. It is the intent of the ITSP to support the City’s annual capital planning and budgeting processes by providing direction and input necessary to justify expenditure.

The ITSP does not include detailed specifications, requirements, or recommended vendor solutions. When a project is initiated, the Plan assumes City staff will follow traditional project planning and management processes that would include detailed requirements analysis, formal procurement and selection, and implementation processes. With the rapid changes in technology and vendor solutions, the City would be best served by carefully evaluating the market solutions available at the time a project is scheduled for procurement.

#### 4.2.1 Project List by Department

Table 2 lists the projects by department. In addition, the table provides a brief description of each project.



Table 2 – Project List

Project Name	Sponsoring Department	Project Description
New City Website	Administration	This project is to replace the current City website with a solution that aligns with best practices and is supported by a proven content management solution. The City's current website is difficult to navigate or locate information quickly, limited in functionality, includes "dead links", and presents an inconsistent look and feel when navigating between departments. This project will also address the City's use and management of social media (i.e. Facebook, Twitter, etc.). As the City implements new business and operational applications (i.e. EnerGov, Cityworks, Springbrook, etc.), the ability to extend these applications through the City's website will be increasingly important.
Agenda Management	Administration	This project is to implement a proven commercial-off-the-shelf (COTS) agenda management solution to manage the creation and publishing of Council agenda items. The solution should allow the City to streamline the process for managing agenda items, staff reports, and other attachments for Boards, Commissions, and City Council meetings.
Customer Relationship Management (CRM)	Administration	This project is to implement a customer relationship management (CRM) solution to improve the completion and tracking of service requests received by the City. Such a solution would improve customer satisfaction and streamline the processes for routing and tracking requests received through the City Manager's Office or any other City department. Requests would be tracked through resolution and available for future reference.
Enterprise Document Management	Administration	This project is to establish an enterprise wide document management strategy and implement an enterprise document management and retrieval system. The City is currently using several solutions to support these functions. Consequently, in today's environment, staff can be frustrated and find it time consuming to locate City documents. To avoid the City incurring the maintenance and support costs for multiple systems, as well as to support a single data repository for city documents, the City should implement a proven commercial-off-the-shelf (COTS) solution. This project should include the hardware, software, integration/interfaces, migration of current documents, staff training, and associated policy and procedures statements.



Project Name	Sponsoring Department	Project Description
Social Media Roadmap	Administration	This project is to evaluate opportunities for the City to leverage emerging social media channels to communicate and interact with citizens and business. The scope of this project would be to establish policies, procedures, and methods to leverage social media environments. The importance of social media to support communication with citizens and business is rapidly evolving and become a preferred communication channel for many individuals and organizations.
Intranet/Project Collaboration	Administration	This project is for the replacement of the existing Intranet with a new citywide Intranet solution to support cross-department collaboration and communication. The Intranet will provide the ability for staff to collaboratively work on projects by providing a site that supports document sharing, routing/alerting/workflow, editing, and version control. In addition, the Intranet would provide a secure location for City policies, standard forms and templates, employee handbook, information about medical providers, contact lists, and any other information staff needs to access. The project would include necessary hardware, software, requirements determination, Intranet design, and user training.
Neighborhood Definition	Administration	This grant-funded project is to create opportunities to connect residents with special interests into the City's activities. Consideration pertaining to the manner in which all applications could be leveraged to provide efficient public access to information is included in the project scope.
Claims/Risk Management	Administration	This project will implement a solution to help the City manage claims activity and provide a centralized repository of information. In today's environment, when a claim is received, staff is assigned to investigate and research the incident that occurred. The claims process and information collected is managed using informal processes (i.e. email, file storage, hardcopies, etc.). The City should explore risk management solutions, as well as investigate the capabilities of existing software solutions to determine if a module exists that can support this. Another alternative would be leverage the Intranet.
IT Governance	Administration	This project is to implement a formal IT Steering Committee to replace the current IT Governance structure. The project will include defining formal roles/responsibilities, processes, and procedures to support IT Governance structures. The goal will be to implement a best practices IT governance structure to provide high-level direction and guidance for IT planning, management, and execution.



Project Name	Sponsoring Department	Project Description
Permitting and Inspection System	Community Development	This project is to complete the implementation of the EnerGov Permitting and Land Management modules. The project includes the hardware, software, data conversion, integration (GIS, LaserFiche), documentation, and staff training.
Permitting and Inspection System - Phase II	Community Development	This project is the follow on phase of the initial permitting and inspection system (EnerGov) implementation. The focus will be to implement additional features and capabilities of the EnerGov solution such as enhancing the City's web site by implementing EnerGov Citizens Access Portal. This would provide the ability for citizens to obtain a simple building permit (i.e. a water heater), provide search capability for developers, and add the ability to make payments online.
Litigation System	City Attorney	This project is to implement a system to support the City's in-house litigation activities. The system should be capable of supporting case management activities, schedules, and documents from initiation through resolution.
Contracts Management Solution	City Attorney	This project is to implement a contract management solution (i.e. Hummingbird) that would improve the creation, routing/tracking, versioning, and storage of contract materials.
e-Discovery Solution	City Attorney, Finance/IT	This project is to implement an e-Discovery solution to streamline existing processes to research, identify, and produce public records requests or support legal research requests. Since the City currently stores information in many repositories (i.e. LaserFiche, MuniMetrix, file folders, email, Intranet, etc.), it can require many hours to perform a comprehensive search and this reduces the confidence that all relevant material has been identified. A typical e-Discovery solution will: help identify, collect, and preserve critical information assets; produce, retrieve, and review all discoverable data on demand with a repeatable and defensible electronic evidence discovery strategy; reduce risk and costs related to electronic discovery; manage data from its creation to deletion across all repositories, and leverage searches across multiple data types.



Project Name	Sponsoring Department	Project Description
City Hall UPS/Datacenter Power	Finance/IT	The City's current backup power at City Hall is insufficient to ensure adequate time to recover or perform an orderly shutdown to prevent data loss or damage due to unplanned power outages. This project would provide suitable emergency power (uninterruptable power supply/UPS, generator) to protect the equipment and to allow user access to systems to continue even during a prolonged power outage.
Finance/Payroll/HR System	Finance/IT	The City's current solution (Pentamation) is approaching end of life, as the current vendor (SunGard) no longer actively markets this application. The Pentamation solution supports the City's core financial functions and payroll needs. The City would benefit by implementing a commercial-off-the-shelf (COTS) solution proven for municipalities. Project scope will include supporting finance, payroll, and HR business functions. Major functionality will likely include General Ledger, Project Accounting, Budget, Contract Management, Fixed Assets, Accounts Payable, Accounts Receivable, Purchasing, Payroll, and Human Resources. The project will include software, hardware, interfaces, training, conversion, and business process improvements. It is anticipated that in the next three to five years, the City may be forced to consider procuring a new solution that would provide long term support and brings best practices in terms of finance, payroll, and human resource.
Springbrook Utility Billing	Finance/IT	This project is to replace the existing legacy utility billing software with a commercial-off-the-shelf (COTS) solution. This project will include hardware, software, data conversion, documentation, and training. The City has selected and is implementing the Springbrook solution which went live on January 30, 2012.
Time Tracking System	Finance/IT	This project is to complete the implementation of IntelliTime Systems time reporting application. This application will automatically transfer information to the Pentamation Payroll for payroll processing. In addition, IntelliTime will interface with the Fire staff scheduling and time tracking system (Telestaff).
GIS Technology Roadmap	Finance/IT	The City's GIS is used extensively throughout the organization to support not only daily operational activities but long-range planning efforts. The value GIS brings is that it links information from City databases (i.e. utility billing, permitting and inspection, asset management, etc.) with the physical location. The City's GIS technology and tools are becoming dated. Because of the importance of GIS to support operational functions, as well as the need to effectively integrate GIS with core City applications (i.e. EnerGov, Springbrook, Cityworks, etc.), the City needs to develop a GIS Roadmap that guides future development and decisions related to the implementation and management of GIS.



Project Name	Sponsoring Department	Project Description
Mobile Computing	Finance/IT	This project is to establish mobile computing standards and processes to support field staff in accessing information, as well as supporting the electronic collection of information to reduce paper-based processes. This project will focus on providing the field staff with tools to allow them to work without coming back to the office and would increase their efficiency by being in touch and having information available to perform duties. Many of the best practices solutions the City is seeking (i.e. EnerGov, GIS, Utility Billing, CMMS, etc.) rely on mobile access to attain full benefits.
Online Public Map Access to ArcGIS Servers	Finance/IT	This project would establish a portal for interactive citizen mapping on the City's web site using current GIS technologies.
Water Reclamation GIS Mapping	Finance/IT	This project will create GIS map layers for the Water Reclamation Facility. Interns will assist with this project.
Business Continuity and Disaster Recovery Plan	Finance/IT	This project is to develop, test, and implement a disaster recovery plan to ensure the City's technology infrastructure can respond to an adverse event according to the timeline needs identified by the departments. The project will include completion of a business impact assessment to determine recovery requirements by the departments, assessment of the options and cost to meet those requirements, and the implementation of an IT disaster recovery plan to support established requirements.
Project Management Support	Finance/IT	Project management is the discipline of planning, organizing, securing, and managing resources to achieve specific goals. Ineffective project management can result in extended timelines, budget overruns, and project failure. Project budgets should include project management resources.
Project Management Software	Finance/IT	Project management software provides a centralized standard for resource allocation, timelines, budget, and documentation to support project activities and oversight. This project would procure a project management application; provide user training and on-going support.
Telestaff for Fire	Fire	This project is to complete the implementation of the Telestaff solution for the Fire to support staff scheduling and time reporting.



Project Name	Sponsoring Department	Project Description
MDC and In-Car Video Replacement	Fire/Police	This project will replace the mobile data computers (MDC's) used in the Fire and Police vehicles, and replace the in-car video equipment in Police vehicles.
Police Scheduling Review (Speedshift)	Police	This project will evaluate the effectiveness of the Speedshift staff scheduling application. Available application upgrade(s) would be reviewed, followed by procurement activity to replace the application if significant deficiencies exist.
Streaming Video to Dispatch	Police	This project will provide the ability to feed live streaming video from any location to the Dispatch Center. The completion of this project would provide more information to the Dispatch Center and the EOC in the event of a major incident. The initial phase will be to complete a feasibility analysis in order to determine if there are cost or technology constraints that would prevent this from being implemented.
Interview Room Audio/Visual Upgrades	Police	This project is to replace the unreliable and dated audio/visual equipment used in the Police interview rooms.
RecWare Upgrade	Parks & Recreation	This project is to upgrade the existing Parks and Recreation system from RecWare Safari to Active Network. This project will provide additional features and enhancements, and offer additional capabilities supporting class registration, facility reservations, point of sale at the golf course, and production of brochures/schedules.
Photo Management	Parks & Recreation	The City's use of digital cameras to support daily operations is increasing as staff recognizes the value of having a digital photo repository. However, the size of a typical photo file and the growing volume of photos being stored creates long term storage and retrieval challenges. The City needs a photo management application that allows easy upload of photos, allows easy search and retrieval, supports basic editing, and provides efficient storage.



Project Name	Sponsoring Department	Project Description
Phase II Cityworks Asset Management	Public Works	This project is to complete the implementation of an asset management solution to support the Public Works department. The City anticipates leveraging the CMMS (Cityworks) solution to meet this need.
Cityworks Street Sign Management	Public Works	This project is to implement Cityworks to support improved inventory tracking and management of the City's street signs.
Transit Radio Upgrade	Public Works	This project will replace the radios installed in the transit buses, and the mobile and handheld radios used by transit staff. The project includes the installation of a new radio transmission site and three receiver sites. The project is grant funded.
CMMS	Utilities	This project is to replace the existing Hansen CMMS application used by Utilities. The City evaluated upgrading Hansen to the current release, but determined it would be a major project in terms of cost and staff level of effort with inadequate return on investment. In addition, Utilities was seeking best practice features and functions related to long-term asset management, preventative maintenance, mobile access, service/work order management, etc., and as such, selected Cityworks to provide a solution that would be integrated to the City's GIS (ESRI), Utility Billing (Springbrook), and Permitting/Inspection (EnerGov) applications. The scope of this project will include hardware, software, integration, documentation, business process improvement, data conversion, and staff training.
SCADA System Upgrades	Utilities	This project is to upgrade the existing SCADA technology (i.e. GE's Fix32 to iFix) used to support wastewater and recycled water.



### 4.2.2 Timeline and Costs

To be successful, the ITSP must establish a realistic and achievable schedule as to when projects can be completed. The project timeline presented in Table 3 provides a clear roadmap for the City in terms of project planning and budgeting.

During the Prioritization Workshop, NexLevel employed a structured ranking and priority methodology that allowed City management to actively participate in establishing the project implementation sequence using a combination of priority score, staff resources, risk to the City, and budget.

For each project, NexLevel included a planning and evaluation period. It is during this time that City staff will define detailed requirements, develop and release an RFP, evaluate vendor solutions, complete the procurement, and oversee the implementation. In addition, several of the projects involve ongoing processes that will follow after the implementation period, and these have been identified as such.

It will be critical for the City to identify and quantify any potential staffing or support requirements prior to implementing each project. This includes identifying necessary training of staff to ensure ongoing support of the technology implemented. To implement projects without addressing staffing requirements will jeopardize support and service levels.



Projects	Estimated Cost (\$'s in 000's)		FY 11/12				FY 12/13				FY 13/14				FY 14/15				FY 15/16			
	Low	High	Q1	Q2	Q3	Q4																
<b>FY 2011/2012</b>																						
Permitting and Inspection System	\$ 800	\$ 850	■	■	■																	
Time Tracking System	\$ 100	\$ 150	■	■	■																	
Telestaff for Fire	\$ 50	\$ 75	■	■	■																	
CMMS	\$ 300	\$ 400	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Cityworks Street Sign Management	\$ 10	\$ 30		■	■	■																
Transit Radio Upgrade	\$ 210	\$ 210		■	■	■																
Springbrook Utility Billing	\$ 150	\$ 150		■	■	■	■															
New City Website	\$ 75	\$ 125		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SCADA System Upgrades	\$ 50	\$ 150		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Neighborhood Definition	\$ 25	\$ 75			■	■	■															
Interview Room Audio/Visual Upgrades	\$ 25	\$ 100			■	■	■															
GIS Technology Roadmap	\$ 25	\$ 75			■	■	■															
RecWare Upgrade	\$ 15	\$ 30			■	■	■															
<b>Total Estimated Cost Range for FY 11/12</b>	<b>\$1,835</b>	<b>\$2,420</b>																				
<b>FY 2012/2013</b>																						
Water Reclamation GIS Mapping	\$ 25	\$ 50					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Business Continuity and Disaster Recovery Plan	\$ -	\$ 75					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Agenda Management	\$ 75	\$ 150					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Phase II Cityworks Asset Management	\$ 100	\$ 150					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Enterprise Document Management	\$ 125	\$ 250					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Contracts Management Solution	\$ 25	\$ 50						■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Intranet/Project Collaboration	\$ 125	\$ 175						■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Total Estimated Cost Range for FY 12/13</b>	<b>\$ 475</b>	<b>\$ 900</b>																				

Table 3 - IT Project Timeline



Projects	Estimated Cost (\$'s in 000's)		FY 11/12				FY 12/13				FY 13/14				FY 14/15				FY 15/16			
	Low	High	Q1	Q2	Q3	Q4																
<b>FY 2013/2014</b>																						
MDC and In-Car Video Replacement	\$ 650	\$ 700																				
Customer Relationship Management	\$ 50	\$ 125																				
Project Management Software	\$ 10	\$ 25																				
Finance/Payroll/HR System	\$ 50	\$ 150																				
Mobile Computing	\$ 50	\$ 100																				
Police Scheduling Review	\$ 50	\$ 75																				
Permitting and Inspection System Phase II	\$ 25	\$ 75																				
<b>Total Estimated Cost Range for FY 13/14</b>	<b>\$ 885</b>	<b>\$1,250</b>																				
<b>FY 2014/2015</b>																						
Online Public Access Map	\$ 50	\$ 75																				
<b>Total Estimated Cost Range for FY 14/15</b>	<b>\$ 50</b>	<b>\$ 75</b>																				
<b>FY 2015/2016</b>																						
Social Media Roadmap	\$ -	\$ 10																				
City Hall UPS/Datacenter Power	\$ 100	\$ 200																				
Photo Management System	\$ 10	\$ 25																				
Litigation System	\$ 50	\$ 75																				
e-Discovery Solution	\$ 50	\$ 150																				
Claims/Risk Management	\$ 25	\$ 50																				
<b>Total Estimated Cost Range for FY 15/16</b>	<b>\$ 235</b>	<b>\$ 510</b>																				
<b>Future</b>																						
Streaming Video to Dispatch	N/A	N/A																				
GPS Equipment Upgrade	N/A	N/A																				



## 5 Conclusion

At its most basic level, technology promises to reduce the costs associated with delivering services. At the next level, when technology is fully leveraged across an organization, it has the potential to significantly improve and enhance service delivery.

*Technology can provide a cost effective alternative to traditional service delivery approaches resulting in improved customer service.*

The City recognizes that technology is rapidly becoming critical to performing many day-to-day business functions. In addition, the City recognizes the importance of leveraging technology to meet its growing business needs in the most cost effective manner. The ITSP is a valuable tool to ensure technology is procured, implemented, and managed in a cost-effective approach that maximizes the benefits to the City and its customers.

As evidenced from the number of projects in the ITSP, the City faces a significant challenge over the next five years to implement and manage technology. As many organizations have come to realize, the cost and risk of implementing technology can be significant. The ITSP recognizes this and places a high level of importance on implementing a formal IT Governance process to help manage and provide oversight to technology implementations.

The ITSP is a result of a comprehensive, City-wide planning effort that provides the opportunity for management and staff to review, discuss, and integrate their technology needs into a common framework. It provides a common understanding of

the City's technology priorities, and serves as a tool to deliver an overall picture of what is to be accomplished and why.

The City's current technology environment represents a complex system that consists of numerous applications and infrastructure. As with any complex system, the addition or modification of any component has the potential to impact other parts of the system. This ITSP includes projects that are aimed at improving business applications, technology infrastructure, and governance. As projects are implemented, it will take careful coordination and planning to manage the change introduced and to ensure that the projects do not adversely impact other components within the City's technology environment.

The creation of the ITSP represents the culmination of only one step in the planning process. It also marks the beginning of another step – one through which City leaders must work together to create an environment that supports the ITSP. The IT Division along with technology vendors employed by the City must now work closely with City executives, leaders, and staff as they begin a journey to create an organizational sense of purpose that goes much deeper than any vision statement, mission statement, or plan can communicate.

The potential is significant, but so too are the challenges. The City has the opportunity to transform the enterprise into an environment where each office has the information it needs to function at peak performance, while the government and its constituents are well connected and interact together in a seamless, effective manner.

