CITY OF SANTA CRUZ

Information Technology Strategic Master Plan

2014 - 2019

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NEXLEVEL Information Technology, Inc.

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1 Introduction

1.1 City Profile

The City of Santa Cruz (City) is located on the northern part of the Monterey Bay, approximately 75 miles south of San Francisco and 30 miles from San Jose. Incorporated in 1866, it received its first charter in 1876. The City currently operates under the provisions of a charter approved by the voters in 1948 and subsequently amended from time to time.

Santa Cruz is the county seat for the County of Santa Cruz. The City has an area of 12 square miles and an estimated population of 60,955 as of January 2012. Santa Cruz is the home to the University of California, Santa Cruz (UCSC), which opened in 1965 and has a current enrollment of over 16,000 students. The City's major industries include tourism, manufacturing, and technology.

The City Manager is responsible for carrying out the policies and ordinances of the City Council, for overseeing the day-to-day operations of the City, and for appointing department heads.

The City provides a broad range of services including police and fire protection; construction and maintenance of streets, parks, flood control, and other infrastructure; a wharf facility; and recreational and cultural activities including a performing arts center and human services programs. It operates four municipal utilities, including water, wastewater, storm water, and refuse collection/landfill operations, as well as enterprise operations for parking facilities and a golf course.

1.2 Background

Since January 30, 2007, the City's IT Department has been implementing the 2007 Information Technology Master Plan's recommendations. These activities, when coupled with the rapid and far-reaching impact of technology developments since the 2007 IT Master Plan was written, led the City to initiate activities to create a new technology strategic plan. Today's smartphones are faster than the personal computers of the mid-2000's; PDA's are extinct; "Google" is a verb; it's difficult to find a VCR or diskette, DVR's and thumb drives are now the norm; and the cloud is not only a visible mass of water droplets. Social networking is no longer just for socializing but part of every modern business.

Accordingly, the City selected NexLevel Information Technology (NexLevel) to assist in creating the new 5 year IT Strategic Master Plan (ITSMP) that will articulate the current state of the City's technology and its technology and infrastructure vision. NexLevel is a Technology Management Consulting company that specializes in helping California local governments plan for and implement technology.

The ITSMP will be the guiding document that shapes how the City delivers unified and symbiotic technology services throughout the organization and to the community. The ITSMP will be the basis for long-term hardware, software, and service procurements, as well as the foundation for staff development.


1.3 Project Purpose and Benefits

Over time, local governments typically struggle to keep up with technology demands. Technology needs and reliance, both by the City staff and its citizens/businesses, can exceed the IT organization's resources and capabilities.

As shown in Figure 1, the ITSMP provides a roadmap that will help the City manage the gap between current and future technology needs and available resources.

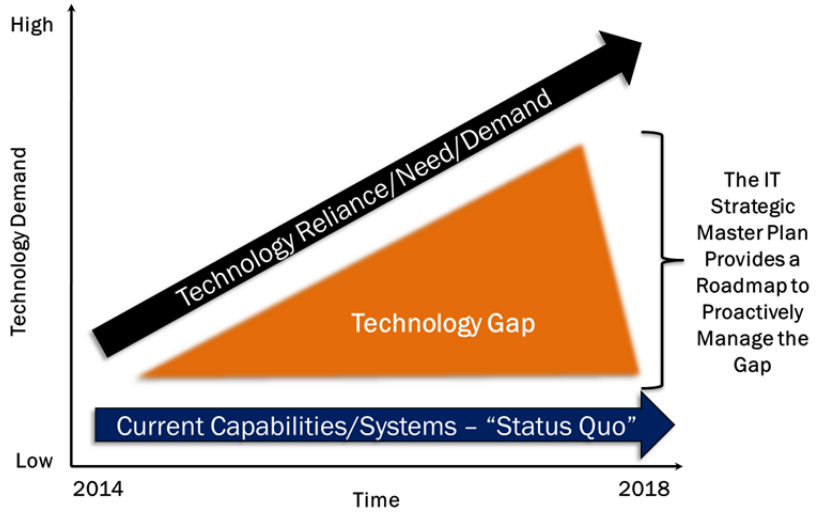

Figure 1 -Technology Gap

The ITSMP addresses the key technology issues facing the City, describes the technology projects necessary to address the issues, and hardware lifecycle management approach that will help ensure the effective use of technology. The ITSMP includes a project timeline, which addresses current active projects and the next highest project priorities.

Implementation of the ITSMP provides the City with the following bottom-line benefits:

- Improved public safety delivery
- Improved business operations
- Improved customer service
- Reduced operational costs
- Increased staff productivity
- Improved succession planning
- Improved technology project decision making

Annual updates to the ITSMP will ensure alignment to the City's changing needs and priorities, as well as to ensure the City takes full advantage of technology advancements.

2 Approach

The ITSMP development process was a City-wide effort involving more than 75 City staff from every department. It focused on identifying the current and future technology issues, challenges, and needs.

The planning process identified 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.

The information gathered during the planning process, along with research regarding how other cities are addressing technology needs,


was used to identify specific technology projects. In developing the ITSMP, NexLevel provided expertise regarding best practices and industry standards.

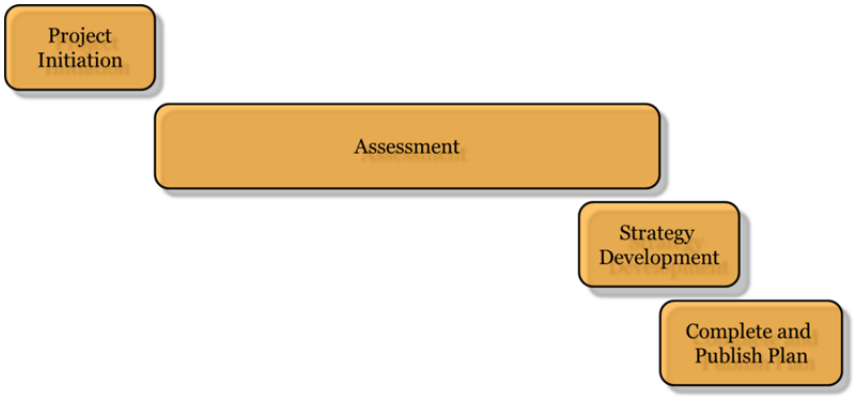

Figure 2 – Project Activities

At a summary level, the major activities included:

- Project Initiation – development of project materials and conducting the kickoff meeting.
- IT Assessment – completion of a user satisfaction survey; interviews with City management and staff; tours of City facilities; review of existing documentation; and development of the Information Technology Assessment.
- Strategy Development – development of a technology project listing through the facilitation of a prioritization workshop with staff, along with development of a prioritized project timeline.
- Complete and Publish Plan – a draft of the plan was submitted to the City for review and comment.

NexLevel submitted the draft ITSMP to the City in May 2013 for review and comment. With management changes in the City's technology organization, the completion of the project was put on hold. The ITSMP project was reinitiated after the delay and NexLevel met with the Directors to review their Department projects and then conducted a second prioritization workshop in 2014.

3 Roadmap

The ITSMP focuses on the identification and definition of strategic projects. A strategic project is one that has the potential to provide significant benefits to the City and/or the citizens and businesses it serves. 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 ITSMP publishes a roadmap that identifies strategic projects that will be implemented over the next five years.

3.1 ITSMP Enablers

As discussed in the previous section, the IT Assessment recommendations (Appendix A) that are not deemed to be strategic projects will be addressed by IT Department staff over time. However, there are several recommendations referred to as key enablers that are critical to the overall success of the ITSMP. The key enablers, as shown in Figure 4, include Governance, Infrastructure Investment, Project Management, Application Leverage, and IT Organization Modifications. They form the foundation upon which the plan is built and should be addressed as soon as possible to provide the best opportunity for a successful ITSMP.

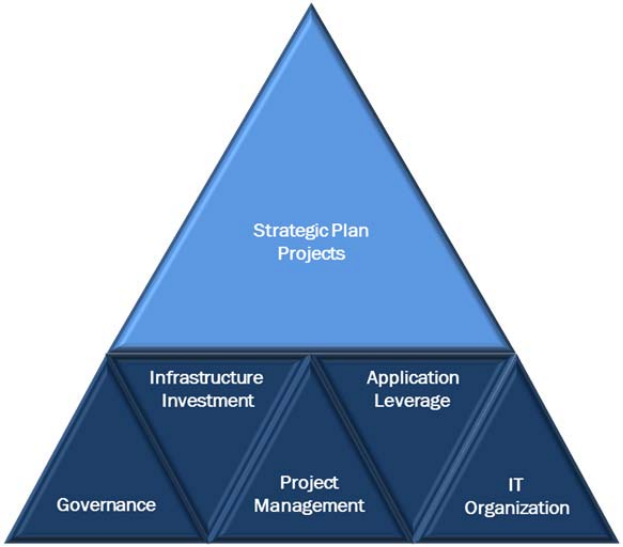

Figure 4 – ITSMP Enablers

3.2 Governance

Industry studies completed by respected research firms have suggested that as high as 20% of all technology investment is wasted each year. When one factors in the potential wasted investment, along with the annual technology expenditure, the importance of technology governance in managing and ensuring an adequate return on investment is significant.

The City does not have a formal technology governance structure that includes well defined processes, policies, and procedures for providing oversight and guidance to the City's use and implementation of technology. The current, informal technology governance structures have yielded some success; however, the City would see significant benefits from implementing a formal structure.


The lack of a formal technology governance structure creates a reliance on informal processes to plan, communicate, manage, and coordinate technology projects or initiatives. As an example, there are no procedures to prioritize, schedule, or track technology projects to ensure alignment with department and City-wide priorities.

In order to create this structure, the City should establish a Technology Council which meets regularly and whose members are comprised of department heads and selected line staff. The scope and responsibilities of the Technology Council will include:

- **IT Strategic Master Plan** – The Technology Council will provide input to, and review of, the technology project priorities and timelines.
- **Strategic Direction/Alignment** – The Technology Council will provide input and feedback relative to each activity. This dialog will ensure appropriate priority and efficient and effective use of IT systems and services.
- **IT Project Review** – The Technology Council will review projects for consistency and compliance with the ITSMP to ensure the City's business systems are supported by the existing technologies and that they can be easily integrated, as needed, with other City applications. This will be a collaborative effort to ensure technology solutions are solving real business needs and that the requirements of all impacted departments are addressed.
- **Policy Guidance** – The Technology Council will review technology policies and guidelines provided by the IT Department staff. The Technology Council will approve these policies, communicate them to staff and help ensure compliance.
- **Technology Usage** – The Technology Council will discuss how new technologies will be used and provide input to the IT Department relative to performance metrics, equipment utilization and hardware/software acquisitions.
- **Technology Information** – The Technology Council will receive updates and status reports relative to technology issues, information security and evolving technology trends from the IT Department. Members will disseminate this information, when appropriate, to their respective staffs.

3.3 Infrastructure Investment

To ensure a reliable, robust, and secure technology infrastructure, best practice encourages timely replacement (refreshment) of technology hardware and equipment. Technology infrastructure includes all hardware and equipment (from the desktop to the data center) that ensures the City's technology users are able to access software applications. As technology infrastructure hardware ages, it becomes less reliable, resulting in higher support costs and increased staff disruption. In addition, as software applications are upgraded or replaced, the new applications are generally optimized to run on the most current hardware and equipment.

3.4 Project Management

Project management is the discipline of planning, organizing, securing and managing resources to achieve specific goals. The City has recognized the importance of project management on past technology implementations and has assigned a dedicated IT Department resource to oversee major technology projects within the City. This individual has


been effective in overseeing projects, working with City departments throughout the project's life cycle, coordinating project activities with software vendors, providing application training, defining data conversion tools, and troubleshooting problems.

The IT Department's Project Manager should continue in the role as currently defined. However, to support technology projects, the City should also assign a department-based project lead who serves as a subject matter expert and has the skill set and authority to effectively perform department level project duties. The department project lead will work closely with the IT Department Project Manager and assume those activities which are better served by department staff (e.g. data conversion quality assurance, scheduling and conducting training, user acceptance testing, etc.). The IT Department Project Manager will provide oversight of all technology projects, coordinate specific project activities with the department project leads, and work closely with the Technology Council to update them on ITSMP related activities.

In order to expedite technology implementation, the City could choose to supplement IT staffing with contract staff. To ensure effectiveness and consistency, IT management should oversee and monitor the activity of contractors to ensure compliancy with City standards.

Once a project is initiated, the City should have standardized templates to track and report on project progress. The use of a standardized project management framework will help ensure a comprehensive understanding of projects among stakeholders and impacted staff and reduce the project risks. At a minimum, all projects should be tracked through the use of the following templates:

- Project Plan
- Issue Management
- Risk Management
- Change Management
- Project Schedule and Resource Tracking
- Budget Tracking
- Project Status Reports

3.5 Application Leverage

The City has implemented a strong application portfolio (e.g. EDEN, CRW, Maintenance Connection, ERSI, CLASS, SIRE, Wonderware, AIMS) that represents a significant investment, in terms of both the original cost (licensing, implementation, training, etc.) and ongoing maintenance and support. The true return on investment of the City's technology infrastructure (network, desktops/laptops, servers, data centers, etc.) is largely realized through the effectiveness of the Application Portfolio. A strong Application Portfolio running on a weak technology infrastructure leads to high user frustration and underutilized assets. In turn, a weak Application Portfolio running on a strong technology infrastructure, results in poor leverage of the City's investment. The City's Application Portfolio should be continually evaluated to ensure that the performance of each individual application is delivering value to the City and is evaluated relative to the risk associated with its on-going operation (technology obsolescence, patch/release management, etc.).

The City must also ensure it gains the maximum benefit from the Application Portfolio by expanding the use of each application to as many departments as possible throughout the City. Technology projects should be identified and implemented that provide the same


application functionality to every department rather than the implementation of stand-alone systems (e.g. desktop-based, Access database, one-off programs, etc.). The City should strive to effectively leverage these core applications through well-trained users, strong processes, and alignment to business objectives.

However, in recent months, three of the City's application vendors have announced discontinued development and selling of their mature applications. Announcements from the three (Tyler Technologies Eden, Active Network Class and Hyland SIRE) vendors state their continued on-going support of the mature application versions.

Replacing these applications will require significant financial as well as staff time investment. Consideration of new features and benefits available may be an incentive to move forward, but should first include a realistic analysis of the impact of the implementation on the organization.

3.6 Technology Trends

It is imperative that the ITSMP consider evolving technology and trends as these can have dramatic impacts to how the City interacts with citizens and businesses, as well as conducts business operations. A key part of analyzing technology trends is assessing the successful application of emerging technologies by the private sector, as well as the public sector to determine the applicability to the City of Santa Cruz and the ITSMP.

The following are technology trends that should be considered as the City implements the ITMSP.

Transparency in Government

Transparency in government builds trust. With technology, online access to government information (agendas and staff reports, meeting minutes, and other public documents) can be provided with the ability to search and download information. This allows the public to determine whether the organization is competent, frugal, and in compliance with all laws. Whenever a public agency looks to implement technology, particularly as it relates to software applications, careful consideration should be given to the ability of the technology to support increased transparency and enabling the public to obtain information through self-serve.

Active Technology Governance

Technology is an investment for gaining business efficiencies and improving service delivery. In today's environment, technologies are implemented within a complex infrastructure and using a shared technology staff; consequently, the implementation of new technology has the potential to benefit or adversely impact the entire organization. Technology governance is a formal process to ensure an organization proactively manages its technology investments and resources, thereby ensuring they remain aligned with business strategies and priorities. Since technology is often leveraged across an organization and is implemented on a shared infrastructure, it is important that technology is managed from an organization-wide perspective.

Mobility

Mobile computing devices (e.g. laptops, notebook PCs, tablets , smartphones, iPads, etc.) used with wireless networks present significant opportunities for increasing staff efficiency and providing new avenues to serve citizens and businesses. Easy to use, inexpensive,


mobile devices provide opportunities for citizens and businesses to interact with their governments. In fact, there is a growing population that views mobile devices as the preferred method of obtaining information and completing transactions. As public agencies procure technologies, the ability to support employee and public mobile needs is an important consideration.

However, the use of mobile technologies presents new challenges related to security and data protection. Since mobile technologies allow access to an organization's systems and data remotely, it presents new considerations for security and support. When mobile technology is used by a public agency staff, it requires decisions about which devices will be supported and how staff will be provided devices (i.e. bring-your-own-device or agency provided devices). In addition, it requires that appropriate policies and procedures be established to safeguard the technology infrastructure and data repository. As an example, access with mobile devices may present Human Resource issues with FLSA for non-exempt staff or the need for a policy for distracted driving.

The use of mobile data management (MDM) solutions to help protect an organization's technical infrastructure and data is rapidly expanding. Since mobile devices allow remote access and allow an organization's data to reside outside the traditional brick and mortar, it is important that appropriate security protocols are adopted. MDM solutions offer the ability to better manage security and protect data.

Cloud Computing

With the advancement of high-speed internet connectivity and server technologies, organizations now have an alternative computing solution outside of the traditional approach where an organization implements and manages their own servers and computers in a data center. Cloud computing generally refers to the use of remote computer resources that are accessed through the Internet. Cloud computing offers public agencies benefits which include quick deployment, flexibility to quickly add/remove computer and storage resources, disaster recovery and backup, reduction in initial capital outlay, environmentally friendliness, and increased monitoring and support capacity. There are many variations of cloud including: SaaS (software as a service), PaaS (platform as a service), and IaaS (infrastructure as a service). When procuring new technology solutions, public agencies should evaluate the benefits and costs of cloud computing compared to the traditional premise-based hardware and software implementation and take advantage of every alternative.

Big Data (Analytics)

In today's environment, a significant portion of an organization's data is stored electronically and available through department level applications via numerous databases. While this has provided many benefits such as streamlined operations, improved efficiency, increased collaboration, and improved customer services, it has yet to be fully harnessed to benefit the organization as a whole. Big Data refers to the fact that organizations are building huge data repositories and are challenged with harnessing the full value of this data to improve organizational wide decision-making. Data is a strategic asset, and leveraging the data to provide useful information is key to maximizing the benefit of an organization's investment in technology. As public agencies look to procure and implement new technologies, special consideration should be given to what data is being captured and how


this relates to the organization's existing data repositories. The focus should also be on understanding how the collected data can be used by other departments to improve their decision-making.

Green Computing

Computers consume power, generate heat, and components require waste disposal. Data centers and other computer components typically account for a significant percentage of an organization's electricity usage. Green computing applies the use of technology strategies such as virtualization, power management, consumable reduction, and e-waste to reduce the environmental footprint from technology use.

Workflow

Workflow is the automation of business processes. Business transactions often require input or approvals from more than one person in an organization. Workflow manages the activities to ensure transactions are routed according to pre-defined standards and conditions. This may involve sending alerts via emails, texts, or posting on a dashboard to the next person responsible for taking action on a business transaction. The expanded use of workflow technologies in business applications increases efficiency, ensures compliance with established procedures and policies, and promotes accountability. When procuring new business applications, an organization should place a high priority on the workflow capabilities offered.

Dashboard

A dashboard is an easy to understand presentation of real-time information in a graphical format that provides decision quality information. Dashboards are customized to meet the information needs of a specific user designed to identify events, issues, trends, performance indicators, and other information. A dashboard may have the ability to pull information from multiple data sources (software applications) to present an enterprise-wide view.

Social Media / Community Engagement

The use of social media (e.g. Facebook, Twitter, weblogs, Internet forums, crowdsourcing, YouTube, etc.) by public agencies is proving to be an effective alternative communication channel to reach citizens and businesses. Public agencies can effectively use social media to engage and communicate with citizens that may not frequently access traditional media. In addition, information can be provided quickly (e.g. communication during an emergency, street closures, or community events). Public agencies should consider the value of social media to extend traditional communication channels.

Network Security / Intrusion Detection Software

Network security is important because hacking threats are constantly evolving and changing. Mobile devices are convenient for users, but increase the risk of unauthorized access to data. Prevention is the first line of defense, but detection is also important. Despite an organization's best efforts at preventing attacks and protecting critical data, there is always a risk that an attack will be successful. Intrusion detection systems work by understanding the traffic on the network and looking for an indication of unauthorized access or an attack. When unauthorized access is identified, the system can automatically block the activity. Performing forensics to understand how the attack occurred will also increase network security as will a periodic network penetration test performed by external security professionals.


E-Discovery

E-Discovery software provides public agencies a method to search electronic document repositories for relevant data. E-Discovery can assist with responding to public records requests. E-Discovery supports transparency in government and can reduce the cost and complexity of identifying relevant electronic information.

Integration

Integration is an enabler that allows organizations to share information among various systems in an automated manner. Integration minimizes redundant data, improves data integrity, and reduces manual processes to share information from one system to another. As public agencies procure new technology, special consideration should be paid to identifying opportunities to integrate the new technology with existing technologies.

Virtual Desktop Infrastructure (VDI)

VDI is a computing model that allows desktop services to be hosted on a remote server and accessed over a network. This means users can access their desktop from any location and IT administrators have a more centralized client environment to maintain. Interest in this emerging technology is high because of these and other benefits. However, VDI requires a robust network and data storage and application performance results can vary.

3.7 Projects

The technology planning process culminated in the identification and prioritization of technology projects that will align the City's technology environment with anticipated business needs. The projects span across all departments and are instrumental to improve services, operations, and/or increase the security and reliability of the existing technology environment.

The 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 ITSMP 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 ITSMP to support the City's annual budgeting process by providing direction and input necessary to justify expenditure.

The ITSMP is not meant to include detailed specifications, requirements, or recommended vendor solutions. When a project is initiated, the ITSMP assumes City staff will follow appropriate project planning and procurement processes that include detailed requirements analysis, formal evaluation and selection, and implementation methods. With the rapid change in technology and vendor solutions, the City is best served by careful evaluation of available market solutions at the time a project is funded and initiated.

3.8 Department Project Plans

The following pages provide project plans by department. For each department, the ITSMP provides an overview of the primary business application technology in use, an analysis of the department's technical


environment, a list of technology trends that may be impacted by each application or project, a detailed listing of the projects identified to improve the department's use of technology, an implementation timeline for each project and an estimated low/high cost range for each project.

The City currently has a significant number of active projects, which are included in the Department project plans. The number of active projects has created a large workload for IT staff, and staff must balance the project activity with the time required to provide on-going maintenance and support for existing technologies.


City Clerk

Technology Overview	Primary business technologies used are the SIRE document management software and AgendaPlus system including streaming video of City Council meetings. The document management system provides for a City-wide electronic repository and retrieval of business documents. AgendaPlus allows the Council's agenda process to be automated from start to finish, enabling electronic item creation, routing for approvals, and compilation into the final agenda packet.
Assessment	The business applications in use are generally effective, well-supported, and have a significant user base outside the City. The City needs to take an active position of expanding the document management software to other departments and to provide a central, consulting service to departments in the effective use of the application as noted below.
Applicable Trends	Transparency, Workflow, Social Media, e-Discovery, Mobility
ITSMP Projects	
Project Name	
Document Management System Enhancements	Currently the City is experiencing several issues with the SIRE document management system that makes it difficult to complete searches, workflows, and video use.
	Hire a SIRE consultant to perform a review to provide advice on bring resolution to issues, as well as to resolve issues where possible.
	Increase transparency and productivity.
	Medium
	$150k-$250k
Document Management Plan and Expansion	Currently the City does not have a formal plan for how to use and expand the document management system. This is required to encourage citywide adoption of the document management system, as well as ensure records retention schedules are in place. The following departments currently use the SIRE system: Water, Fire, Public Works, Human Resources, and Planning & Community Development. There are opportunities to expand to other departments, as well as to expand within the departments currently using the system.
	Develop a citywide document management plan to support citywide rollout. Establish a process for expanding the system use per the plan.
	Improved staff productivity and increased data transparency.


Project Name		
	High	
	$0-$25k	
Agenda Management Enhancements	*Description*	The City currently is currently using SIRE's AgendaPlus to support the Council agenda management. The solution has the capabilities to support all of the City's boards and commissions and should be expanded further. Departments are unable to format text (e.g. tables, underlines, bold, etc.) in agenda reports when using the SIRE Agenda solution and reference attached Word documents to present required text formatting.
	Objective	Implement the use of SIRE to support electronic agenda and minutes for boards and commissions. Implement necessary changes with SIRE AgendaPlus to support formatting controls for staff.
	Benefits	Increased staff productivity and transparency.
	Level of Effort	Medium
	Cost Range	$0-$25k

Planning and Community Development

Technology Overview	The department's primary business application is CRW Systems, Inc. which is used by over 135 agencies across the United States. CRW provides a full suite of applications - from building permit software to inspection software to land management software, code enforcement, and more. This application is regularly updated and new modules are made available to customers to enhance or expand the use and integration of the software. The Department also uses several other applications (Kronos, GIS, etc.) to conduct its customer facing business.
Assessment	The CRW application is robust and continues to meet customer demands. It is considered a top-tier application for Community Development departments nationwide. The City should keep the operating version as current as possible and implement new modules as appropriate. Continued expansion of the use of CRW throughout City departments (e.g. Fire, Public Works, and Water) is recommended.
Applicable Trends	Transparency, Mobility, Workflow, Dashboard, Community Engagement, Integration, Big Data

ITSMP Projects

Project Name	Project Detail	
CRW Field Access (iTrakIT) ***In process***	*Description*	The City's field staff did not have access to CRW while in the field. The City ~~-~~purchased the CRW module, iTrakIT, which~~s~~ provides the field staff the ability to schedule inspections, enter their results and print out all necessary documentation while in the field using an iPad. Building Inspectors, Code Enforcement, Rental Inspectors and Fire staff are beta testing the use if iPads.
	Objective	Implement iTrakIT for to support field staff.
	Benefits	Improved staff productivity and customer service.
	Level of Effort	Medium
	Cost Range	$25-$50k
CRW Online Access (eTRAKiT and eMarkup) ***eTRAKiT is in process***	*Description*	The Department seeks to implement the CRW module eTRAkiT that would allow the public to schedule inspections and check on the permit status via the Internet. The City's current process for plan submittal requires citizens and businesses to deliver hardcopy or files. The Department would like to automate the plan submittal process using eMarkup to allow the public to submit required information electronically.
	Objective	Implement CRW eTRAKiT and eMarkup modules. The eTRAKiT feature will provide public access to CRW information and eMarkup will allow the public to submit planning documents electronically for review.
	Benefits	Improved staff productivity and customer service.


Project Name	Project Detail	
	Level of Effort	Medium
	Cost Range	$25-50k
CRW and Kronos Integration	*Description*	The CRW solution is not integrated to the City's time tracking system (Kronos). This results in manual processes and duplication of effort to obtain time information from CRW CodeTRAK module to be manually input into Kronos. As an example, some CDBG activity (e.g. code enforcement) is billable.
	Objective	Implement an interface between the two systems.
	Benefits	Increased staff productivity.
	Level of Effort	Medium
	Cost Range	$20-$25k
Field Printing	*Description*	The Department would like to provide the code enforcement staff the ability to print notices (e.g. violation, courtesy, corrections, etc.) in the field while on-site.
	Objective	Identify and implement a mobile print solution that integrates to the mobile units.
	Benefits	Increased staff productivity and customer service.
	Level of Effort	Low
	Cost Range	$10-$25k


Economic Development

Technology Overview	The department relies on core business applications managed by other City departments (e.g. EDEN, CRW, GIS, etc.). Economic Development requires current information, reliable systems, and ease of data access.
Assessment	Several stand-alone software applications or expansion of existing core systems would improve Economic Development's access to data and dissemination of data to its clients. In addition, any application or use of software that increases the City's positive exposure to new businesses would be desirable.
Applicable Trends	Transparency, Dashboard, Community Engagement, Integration, Big Data

ITSMP Projects

Project Name	Project Detail	
Property Inventory Management System	*Description*	The City currently relies on an in-house developed Access system that is more than 10 years old to track property inventory.
	Objective	Implement an application to improve tracking and reporting on City property.
	Benefits	Improved staff productivity.
	Level of Effort	Medium
	Cost Range	$0-$25k
Project and Grant Tracking System	*Description*	The Department currently relies on the Eden financial system and a variety of spreadsheets to track project and grant activity. Due to limitations with the Eden financial system, staff must pull information from Eden and track activities using Excel. This can be time consuming and increases the margin for error because of the manual processes and data manipulation.
	Objective	Evaluate Eden's Project Accounting and Grant capabilities to determine if it can be implemented to meet the Department's needs. If not, procure and implement a 3rd party project and grant system that is integrated with Eden.
	Benefits	Improved staff productivity.
	Level of Effort	Medium
	Cost Range	$50-$100k


Online Business Portal		*Description*	The City's current website does not fully meet the needs of the Economic Development Department in terms of attracting businesses to the area by clearly identifying the services and programs available. The Department wants to be viewed as progressive as they deal with high technology businesses and would like to have a more robust and "exciting" website that provides prospective businesses the information they need to consider locating in Santa Cruz.
		Objective	Evaluate if the City's current website provider, Vision Internet, offers a solution capable of meeting the requirements. If not, identify an alternative solution provider to implement a business portal solution that integrates to the existing City website.
		Benefits	Improved customer service.
		Level of Effort	Medium
		Cost Range	$25-$50k
CRW Inquiry		*Description*	The Department can support façade improvements that typically do not require a building permit. However, before the Department initiates a project they would like to inquire and review other permit activity and possible code violation history in the CRW system.
		Objective	Citywide perspective to qualify applicants.
		Benefits	Improve efficiency.
		Level of Effort	Low
		Cost Range	$10-$25k


Finance

Technology Overview	The City's finance application is Tyler EDEN, which is a proven municipal finance and payroll solution that is used by numerous cities.
Assessment	The City is effectively using EDEN to support the majority of the City's finance and payroll needs. Additional software modules are being added to the core application to improve processes and information access for staff. The most significant shortcoming of EDEN is the ability for City staff to obtain useful reports from the system. A solution to this reporting issue would be of significant benefit to all City departments.
Applicable Trends	Transparency, Analytics, Workflow, Dashboard, Community Engagement, e-Discovery, Integration, Bid Data

ITSMP Projects

Project Name	Project Detail	
Financial System Reporting Enhancement	*Description*	Develop a reporting strategy and implement associated technology to improve the Department staff's ability to obtain information from Eden. It was originally envisioned that EZEden would address reporting issues; however, staff report that it is not meeting their needs and that sometimes the information reported back does not agree with reports obtained directly from the Eden system.
	Objective	Implement the necessary reporting/data mart tools to allow Department users to obtain the reports and information required without needing technical or financial staff support.
	Benefits	Improve staff productivity.
	Level of Effort	Low
	Cost Range	
Eden Financial System Enhancements	*Description*	Desired features and enhancements to the Financial system include: • Document management – electronically attach documents to transactions, i.e. invoices, accounts payable checks and supporting documents. Electronic documents would be retrievable from the Financial system when accessing related financial transactions. • Bid and quote management – many of the City's current processes to support the procurement activity are manual or rely on external tools (e.g. spreadsheets, etc.). The City is seeking a way to improve the management of procurement activity through better automation and getting to a paperless environment. • Accounts payable web extension – the City's vendors and business partners do not have an easy way






Project Name	Project Detail	
		to manage and make inquiries on their account. The City is seeking the ability to allow vendors to access information online, in a self-service mode, to view paid and unpaid invoices, purchase orders and payment history, as well as to update vendor and contact information. • Contract management web extension – provide staff and vendors with additional contract related information in a self-service format. Allow vendors to search and retrieve summary and detail information on contracts, payment activity, supplemental data, retainage history, insurance and other requirements.
	Objective	Implement available system enhancements to automate supporting financial activities.
	Benefits	Improve staff productivity citywide.
	Level of Effort	Medium
	Cost Range	$25-$50k
Access Database Enhancements	*Description*	The Department relies on several in-house developed Access databases for managing and tracking transient occupancy tax, vendor listing for emergency response, audits, AD/TOT tax, and more.
	Objective	Evaluate opportunities to leverage existing systems (e.g. Eden) to support the above functions. If none are available, evaluate and document the Access databases to ensure ongoing support.
	Benefits	Increased staff productivity and transparency.
	Level of Effort	Low
	Cost Range	$0-$25k
Financial/Payroll/HR System (EDEN Replacement)	*Description*	Replacement of the existing EDEN finance and payroll system with commercial-off-the-shelf (COTS) solution proven for municipalities. Tyler Technologies, Eden's parent company, is no longer selling the Eden system. 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 HR. Significant features of the new system should include a robust workflow and self-service modules (i.e. employee self-service, vendor self-service, etc.) and employee timekeeping. The new system will likely include integration to GIS, document management, CRW, employee time reporting, and other department level systems. The project will include software, hardware, interfaces, training, conversion, project management, and business process improvements. Consider backfilling positions for the subject matter experts dedicated to the project.
	Objective	Significant features of the new system should include a robust workflow and self-service modules (i.e. employee self-service, vendor self-service, etc.). New system will likely include integration to GIS,






Project Name	Project Detail	
		document management, CRW, employee time reporting, and other department level systems.
	Benefits	Improved staff productivity, increased data transparency and improved staff productivity.
	Level of Effort	High
	Cost Range	$1M-$2M


Human Resources

Technology Overview	The Department uses the EDEN HRIS module. Other systems currently in use include EDEN (finance), Kronos (timekeeping), SIRE (document management), and NeoGov (personnel recruiting). Overall, the Department relies on core City-wide software applications to provide HR services to City employees and citizens.
Assessment	For the most part, the computer applications used by this department are effective and meet their business needs. New EDEN modules will enhance customer service and access to information (PAF on-line form, , and employee self-service). In the future, a City-wide performance evaluation management system and new HR system may be explored.
Applicable Trends	Transparency, Mobility, Analytics, Workflow, Dashboard, Community Engagement

ITSMP Projects

Project Name	Project Detail	
Online Personnel Action Form (PAF) Online Approval Queues	*Description*	Determine if the most current Eden release provides the required features to implement -PAF approval queues. The solution is similar to the model used to automate purchase orders.
	Objective	Implement Eden to support online PAFs.
	Benefits	Improved staff productivity.
	Level of Effort	Medium
	Cost Range	$0-$25k
Performance Evaluation Management System	*Description*	The Department is seeking to implement a system to improve the tracking and processing of staff performance evaluation activities.
	Objective	Implement a performance evaluation management system. The City should explore leveraging the NEOGOV or Eden solutions to meet this need prior to looking to other outside solutions.
	Benefits	Improved staff productivity.
	Level of Effort	Medium
	Cost Range	$0-$25k
Financial System Expansion – Personnel Web Extension	*Description*	The City seeks to provide staff with increased personal and employment information in a self-service format. The City has recently implemented the Personnel Web Extension module to support web pay stubs.
	Objective	Implement and rollout the full features available with the Personnel Web Extension module to






Project Name	Project Detail	
		support employee self-serve capabilities.
	Benefits	Increased staff productivity.
	Level of Effort	Low
	Cost Range	$0-$25k
NEOGOV and Eden Interface	*Description*	The City uses NEOGOV to support staff recruiting activities. The Department seeks to integrate NEOGOV with Eden such that when a hire is made, the information gathered during the recruiting process is automatically updated in Eden.
	Objective	Integrate NEOGOV and Eden.
	Benefits	Improved staff productivity.
	Level of Effort	Low
	Cost Range	$0-$25k


Library

Technology Overview	The Library's primary business applications include the web site, and AESOP (employee absence and scheduling software). The Library also utilizes the City's EDEN finance system, Kronos (timekeeping), and City Intranet.
Assessment	The Library has a separate data center and separate technology support staff from the City. An independent IT Master Plan was developed in conjunction with this ITSMP by Carson Block Consulting, which provides a technology roadmap for the Library and recommendation strategies on how to improve on-going support and service.
Applicable Trends	Workflow, Integration

ITSMP Projects

Project Name	Project Detail	
Absence Management System (Aesop) & Kronos Integration	*Description*	The Library currently uses a web-based application called Aesop, which assists the Library in managing staff absences, sick, leave, and vacation requests. Currently the Library staff has to double key information in both Aesop and Kronos (the City's timekeeping system).
	Objective	Create an automated interface to eliminate the double entry.
	Benefits	Free up staff time required to double enter the same information and reduce the possibility of errors as a result of manual processes.
	Level of Effort	Low
	Cost Range	$0-$25k
Library Acquisition System Integration with Eden	*Description*	Currently there is not an automated interface between the Library's acquisition (procurement) system and the City's Eden financial system. Consequently, it is difficult managing budget expenditures and accounts payable activity.
	Objective	Implement an automated interface between the Library Acquisition System and Eden.
	Benefits	Improve the ability to quickly get budget status information prior to procurement. Reduce staff time to perform research and analysis prior to procurement.
	Level of Effort	Low
	Cost Range	$0-$25k


Police

Technology Overview	The major business applications utilized by the Police Department are provided by Santa Cruz Regional 9-1-1 which is a Joint Powers Authority providing public safety and 911 dispatch services (CAD) for the County of Santa Cruz, and the cities of Santa Cruz, Watsonville, and Capitola. Current CAD software is Motorola's Premier and for records management system (RMS), Police Central.
Assessment	The Department has implemented effective technology in support of its public safety and law enforcement mission. The major applications (CAD and Records Management) are provided by Santa Cruz Regional 9-1-1 therefore the effectiveness and enhancement of these systems is driven by the actions of the JPA. As these systems age, newer technologies, capabilities, and equipment will become available, and necessary, for increased service to citizens. It will be important for the Department to work closely with Santa Cruz 9-1-1 in the migration to newer CAD and RMS systems. In the immediate future, the Department will continue to expand its use of technology systems and tools to provide intelligence to better respond to incidents and emergency situations. For the immediate future, the Department will expand it use of mobile technology. Similar to most public safety agencies, the Department will continue to deploy wireless technology to make voice calls, access the Internet or email, and access public safety specific applications and information in the field. Mobility must include accessing criminal databases, communicating with fellow officers, gathering information to respond to incidents, communicating with headquarters, e-ticketing, and accessing specific Law Enforcement applications, all of which are becoming an integral part of Department, especially for first responders. The Department should also explore expanded business applications such as the new NCIC (National Crime Information Center) database and information systems, case management tools, location-based/tracking services, GPS/navigation, field reporting, and video/imaging (In car, mounted, etc.). These future technologies will evolve with a heavy focus on interconnectedness between public safety agencies. A national public safety network will eventually be created which will form the foundation of all public safety applications and networks in the country. As before, the Department will continue to implement stand-alone public safety oriented software applications, special equipment and leading-edge technologies. To a great extent, these systems will be supported independently of the IT Department. However, communications networks, connectivity, data integration and security must be a coordinated effort between the two organizations with the primary responsibility resting with the IT Department.
Applicable Trends	Transparency, Mobility, Analytics, Workflow, Dashboard, Community Engagement, Integration, Big Data


ITSMP Projects

Project Name	Project Detail	
Voice to Text Software (Dragon Naturally Speaking) ***In process***	*Description*	The officers could be assisted by using voice-to-text software to help transcribe reports.
	Objective	Implement software to allow officers to transcribe their reports.
	Benefits	Staff efficiency by reducing the amount of time required for officers to write reports.
	Level of Effort	Low
	Cost Range	$20k
GIS Crime Analysis and Beat Evaluation	*Description*	The Department is looking at leveraging technology to better analyze crime/beat data through a mapping tool such as GIS.
	Objective	Implement data layers in GIS to support analysis and reporting of crime information.
	Benefits	Enhance the ability to analyze crime data to support predictive policing.
	Level of Effort	Low
	Cost Range	$0-$25k
License Plate Recognition ***In process***	*Description*	Automated license plate recognition (LPR) technology provides the ability to automatically identify stolen vehicles. Police obtained a grant that will install ALPR in two mobile units. In the future, the Department will evaluate expanding ALPR with stationary installations.
	Objective	Implement LPR technology.
	Benefits	Improve community protection.
	Level of Effort	Medium
	Cost Range	$38k for installation in two mobile units
Interview Room Recording System ***In process***	*Description*	The current technology used to record interviews is aging and does not provide the quality required and has limited storage capabilities.
	Objective	Implement a new interview room recording solution that meets the current and future needs of the Police Department
	Benefits	Improved recording quality for interviews, ensuring results support investigation and prosecution. Provides the ability to store and retain interview activity for the length of time required.
	Level of Effort	Medium
	Cost Range	$42k


Project Name	Project Detail	
Kronos (Telestaff) Scheduling	*Description*	The Kronos (Telestaff) automated scheduling module creates 24/7 schedules, accommodates unanticipated staff schedule changes and sends notifications for emergency call-in.
	Objective	Implement the module to replace manual processes for staff scheduling.
	Benefits	Increase operational efficiency.
	Level of Effort	Medium
	Cost Range	$25-$50k


Parks & Recreation

Technology Overview	The Department's primary software application is Active Network's Class system. The applications are designed to help community organizations manage recreation activities more efficiently and effectively, from registration and scheduling to point of sale and memberships. Other applications used within the department include Audience View (event ticketing), EDEN (finance), GIS (data layer), CRW (tree permits), and SIRE (document management). Some modules of Class and Audience View are hosted on vendor equipment outside the City's technical infrastructure.
Assessment	The Class system is meeting the City's current needs. The City should continue to proactively plan and implement upcoming releases to remain current with the vendor and fully realize the benefit from new innovations as they are introduced into the solution. The Department depends on accurate, timely data from the City's core business applications in order to effectively service its wide customer base.
Applicable Trends	Mobility, Community Engagement, Dashboard
ITSMP Projects	

Project Name	Project Detail	
Active Network/Class Upgrade or Replacement	*Description*	The Active Network/Class application supports facility reservations and class registration. The vendor has released a newer application (ACTIVE Net) that is intended to replace Class. The newer version provides a sports program module and enhanced, upgrades for class registration and social media. Conversion from the current Class version to the newer module is not available, which requires additional tasks in order to implement the new system.
	Objective	Replace or upgrade the existing Class recreation system.
	Benefits	Continued support to the community.
	Level of Effort	High
	Cost Range	$50-$75k
Staff Scheduling Application	*Description*	Procure an application to assist with staffing for recreation classes and community events. The number of Parks and Recreation part time staff increases significantly during peak seasons.
	Objective	Implement a scheduling application to automate staffing.






Project Name	Project Detail	
	Benefits	Increase staff efficiencies.
	Level of Effort	Medium
	Cost Range	$25-$50k


Public Works

Technology Overview	The Department relies on numerous software applications to conduct its business in an effective and efficient manner. Core City-wide business applications include EDEN (finance), EDEN (utility billing for refuse collection), CRW (Permit information and to Santa Cruz County for storm-water fees), Kronos (time keeping), and CORE (cash receipts). These applications provide important information for timely customer service and data for administration and management. In addition, the Department uses a significant number of stand-alone computer applications that are specific to departmental functions and responsibilities. These programs include EDC/AIMS (parking management system), AutoCAD (engineering), Crossroads (traffic accident locations), Gasboy (fuel management), Maintenance Connection (work order management), and Earthmine (maps, measuring for engineering). The Waste Water Plant utilizes software for the specific activities associated with plant operations such as the Supervisory Control and Data Acquisition (SCADA) software (Wonderware), which is an industrial control system that is used to control and monitor the industrial processes within the Plant and Perkin-Elmer's Laboratory Information Management System (LIMS) which processes and reports data related to samples from the water treatment facility.
Assessment	The Department is effectively leveraging the Maintenance Connection solution to support maintenance and repair activity. The City should continue to expand the use of this software to other divisions (Wharf, Golf Course, Streets/Traffic, etc.) for work order needs. In addition, the City should continue to remain current with vendor software releases to ensure adequate vendor support and to take full advantage of new features of the application. The EDC/AIMS application is currently being used effectively for parking citations. Several enhanced functions are available which should be implemented to make the system more robust (garage invoicing, and mobility). In addition, the legacy residential parking permit program should be migrated to the AIMS application as soon as possible. This will eliminate the need to continue the operation of the obsolete HP/3000 computer hardware. SCADA recommendations are included under the Water Department of this report.
Applicable Trends	Transparency, Mobility, Analytics, Workflow, Dashboard, Community Engagement, Integration, Big Data, Cloud Computing
ITSMP Projects	


Project Name	Project Detail	
AIMS Upgrade (V8.1) ***In Process***	*Description*	Upgrade the City's parking management solution to take advantage of new event and permitting functionality.
	Objective	Upgrade the City's parking management solution to version 8.1.
	Benefits	Improved customer service and staff productivity.
	Level of Effort	Medium
	Estimated Cost	$0-$25K
Legacy Residential Permit System Replacement ***In Process***	*Description*	Migration of the existing legacy residential permit application from HP3000 to AIMS. The HP3000 hardware platform is obsolete.
	Objective	Upgrade the City's parking management solution to version 8.1.
	Benefits	Improved customer service and staff productivity.
	Level of Effort	Medium
	Estimated Cost	$50k
Parking Garage Invoicing ***In Process***	*Description*	Migrate the manually created invoices for all garage accounts. The Eden and AIMS application were unable to accommodate the requirements. QuickBooks is being implemented.
	Objective	Automate the issuance of invoices.
	Benefits	Improved customer service and staff productivity.
	Level of Effort	Low
	Estimated Cost	$25k-$35k
IPACS-LIMS Integration ***In Process***	*Description*	The IPACS permit and sampling application is a database for environmental compliance. IPACS is not integrated with the Laboratory information management system (LIMS) which results in staff entering the same information in both systems.
	Objective	Integrate web-based permit and sampling application (IPACS) and the Laboratory Information Management System (LIMS) - Labworks
	Benefits	Improve staff productivity.
	Level of Effort	Low
	Cost Range	$0-$25k


Project Name	Project Detail	
Park Mobile	*Description*	The Department would like to enable handhelds to have up-to-the-minute cell phone parking payment information. This will remove the need to log into web page and the need to carry a smartphone.
	Objective	Implement integration necessary to increase information available on the handhelds.
	Benefits	Improved staff productivity.
	Level of Effort	Medium
	Cost Range	$25-$50k
Sanitation Truck Routing System ***In Process***	*Description*	Replace existing manual refuse truck routing and tracking processes with a GIS-enabled product to improve ability to manage refuse activity.
	Objective	Implement technology to improve refuse vehicle routing. This solution may also address the Water Department request for real-time access to refuse truck logs related to pick up activity.
	Benefits	Improve customer service and staff productivity.
	Level of Effort	Medium
	Cost Range	$50-$75k
Fleet Management System	*Description*	The Department needs a full feature fleet management system to improve existing processes for maintenance and management of the City's fleet. The current City CMMS solution does not have adequate features and functionality to support the fleet management needs.
	Objective	Implement a proven fleet management system.
	Benefits	Improve staff productivity.
	Level of Effort	Medium
	Cost Range	$50-$75k
Chemical Inventory Upgrade	*Description*	The Department wants to upgrade the technology and processes related to the Wastewater chemical inventory. This will improve the ability to maintain a chemical response plan.
	Objective	Upgrade chemical inventory solution.
	Benefits	Improve safety.
	Level of Effort	Low
	Cost Range	$0-$25k
Solar System Measurement	*Description*	The City has recently implement solar systems to offset external power needs. The Department would like to publish the power generation and savings to the website.


Project Name	Project Detail	
	Objective	Implement ability to transmit solar generation activities directly to the website.
	Benefits	Increased transparency.
	Level of Effort	Low
	Cost Range	$0-$25k
Ocean St. Traffic Control	*Description*	Implement new traffic signal devices on Ocean St. for improved traffic control.
	Objective	Improve thoroughfare traffic.
	Benefits	Community service; decrease car emissions pollution.
	Level of Effort	Medium
	Cost Range	TBD – grant obtained
Emergency Operations Center (EOC) Solution	*Description*	Currently the City relies on limited technology to support EOC activities. Neighboring agencies have implemented solutions like WebEOC.
	Objective	Implement technology solution to support EOC activities.
	Benefits	Provide improve access to information and coordination of resources in event of an emergency.
	Level of Effort	Medium
	Cost Range	$50-$100k


Water

Technology Overview	Core City-wide business applications include EDEN (finance), EDEN (utility billing), GIS (data layers), Kronos (time keeping), SIRE (document management), and CORE (cash receipts). These applications provide important information for timely customer service and data for administration and management. Specific departmental software applications include Maintenance Connection (work order management), AMAG Security (facility and yard access control), AutoCAD (engineering), and meter reading software(internal developed). The Water Treatment Plant also utilizes software for the specific activities associated with the water production/distribution functions such as the Supervisory Control and Data Acquisition (SCADA) software (Wonderware), which is an industrial control system that is used to control and monitor and the industrial processes. ; Perkin-Elmer's Laboratory Information Management System (LIMS) which processes and reports data related to water quality, and Maintenance Connection CMMS, and Entellysis (electrical switchgear software). The technologies supporting the Plant operations include PLCs, radios and network communication equipment.
Assessment	The on-going IT Department support of the Plant technology is currently provided with three staff members supporting the Public Works and Water Departments. In the future, to better meet the ~~the~~ Water Plant and Waste Water Treatment Plant, additional staff should become primarily responsible for the technologies inside of the Water Plant firewall with focus on implementing additional SCADA reporting and features. ~~.~~ The IT Department would work closely with this individual to primarily support technologies outside of the Water Plant firewall (i.e. wide area network, internet connectivity, voice and voice mail, etc.). Staff should only support the desktops, network infrastructure, integration to other applications and system security. The programming of the Programmable Logic Controllers (PLCs) should be managed by the Public Works and Water departments. The physical coding should not be a function of the IT Department staff as it takes in-depth knowledge of the environment to properly control operating devices. Using an outside consultant to program these devices is acceptable as long as network security is not compromised and remote access is available to consulting staff. In addition, for ease of maintenance, consistency, efficiency, both departments should strive to operate Wonderware at most current, and same, version level.
Applicable Trends	Transparency, Mobility, Analytics, Workflow, Dashboard, Community Engagement, Integration, Big Data, Cloud Computing
ITSMP Projects	


Project Name	Project Detail	
Conservation Data Reporting	*Description*	Staff currently relies on data from Eden and typically requires support from the IT Department to extract and report the information needed for conservation reporting. The staff would like to have a data repository that supports conservation efforts.
	Objective	Implement a reporting structure using Eden or a separate database that supports the current and long-term needs of the Conservation function.
	Benefits	Improved staff productivity, increased transparency, improved customer service.
	Level of Effort	Low
	Cost Range	$0-$25k
SCADA Data Reporting System	*Description*	Currently there are limited methods for staff to access and analyze SCADA data (Historian). Staff would like to have access to a SCADA data repository to support analysis and reporting. Engineering staff located at the Administration office would benefit from the ability to query SCADA data.
	Objective	Implement a SCADA data repository that is accessible through the City's administration network (separated from the SCADA network and systems).
	Benefits	Improved staff productivity, increased transparency, improved customer service.
	Level of Effort	Medium
	Cost Range	$25-$50k
Water Permit System Replacement	*Description*	The Department currently relies on an in-house system to support water permit processing. The Department would like to leverage the Planning and Community Development Permitting and Inspection system (CRW) to support this activity.
	Objective	Implement the use of CRW to support water permit applications.
	Benefits	Improved customer service and staff productivity.
	Level of Effort	$0-$25k
	Cost Range	Medium
Customer Self-Service – Water Customer Portal	*Description*	The City would benefit from implementing a robust customer utility billing self-service web module including the ability to make utility bill payments.
	Objective	Implement a solution that is integrated to the Utility Billing module.
	Benefits	Improved staff productivity and increased customer service.
	Level of Effort	Medium
	Cost Range	$25-$50k


Project Name	Project Detail	
CMMS (Computer Maintenance Management System)	*Description*	An Access database is used to support work order processing. This project would implement the City's Maintenance Connection CMMS application to support work orders.
	Objective	Further utilize the City's CMMS application to support work order processing.
	Benefits	Improved efficiency.
	Level of Effort	Medium
	Cost Range	$25-$50k
48 Hour Outbound Calling	*Description*	The City currently does not have a technology solution to support an automated process to place outbound calls to customers to alert them to 48-hour turn-off notification.
	Objective	Implement an automated calling platform that allows outbound calling to customers to alert to 48-hour notification.
	Benefits	Improved customer service.
	Level of Effort	Low
	Cost Range	$0-$25k
Refuse Log Automation	*Description*	Currently the City's refuse providers maintain a manual log of pickup activity that is faxed to the City's customer service to use as a resource for responding to customer calls.
	Objective	Implement the ability to capture pickup information automatically and in form that can be referenced by customer service in real-time or near real-time. This need may be met by Refuse Route Tracking solution (see Public Works).
	Benefits	Improved staff productivity and improved customer service.
	Level of Effort	Medium
	Cost Range	
Document Management Enhancement	*Description*	Currently the Department uses the SIRE document management solution for as-builts and backflow document. However, staff indicates that it is difficult to find documents.
	Objective	Evaluate how the Department is currently using SIRE to improve the ability to locate documents. Expand the use of the document management system to support other Department functions.
	Benefits	Improved staff productivity.
	Level of Effort	Low
	Cost Range	$25-$50k
Facility Security Access	*Description*	The Department is looking to implement a comprehensive security system that would include motion


Project Name	Project Detail	
System		alarms, video playback, and other features. This solution could be leveraged citywide.
	Objective	Implement a facility security access system.
	Benefits	Increased safety.
	Level of Effort	High
	Cost Range	$100-$150k
Water Quality Reporting	*Description*	The Department is looking to leverage the City's GIS technologies to help track, report, and analyze water quality data. The importance of analyzing water quality is growing because of heightened industry concern about disinfection byproducts. It is expected that the City will see a continued increase in the ability to analyze, track, and report on water quality.
	Objective	Implement a data layer on the City's GIS that support water quality efforts.
	Benefits	Increased safety.
	Level of Effort	Low
	Cost Range	$0-$25k
Stream Level Monitoring	*Description*	The Department is looking to technology to improve the ability to monitor water levels in streams. The process to obtain stream levels for some locations requires driving to remote locations for visual inspection.
	Objective	Implement technologies that are capable of monitoring and communicating with a central office the water level in streams.
	Benefits	Increased safety.
	Level of Effort	Low
	Cost Range	$25-$50k
Automated Metering Infrastructure (AMI) and Meter Data Management System (MDMS)	*Description*	The Department wants to explore opportunities to leverage AMI technologies to improve meter reading and billing, conservation activities, and customer service. This project is probably still 4 years out.
	Objective	Implement AMI technologies to support metering functions and a MDMS solution to support the data management and reporting.
	Benefits	Improve staff productivity and reduce costs.
	Level of Effort	High
	Cost Range	$1M-$2M
Utility Billing/Customer	*Description*	The City's current utility billing/CIS does not contain the features and functions of leading utility billing


Information System (CIS) System		systems. Best in class solutions provide the ability to extend customer service through self-service modules (e.g. online sign up, turn offs, bill payment, etc.), streamline work management through workflow, provides mobile solutions, improved reporting including conservation data, etc.
	Objective	Implement a proven utility billing/CIS system.
	Benefits	Improved staff productivity and improved customer service.
	Level of Effort	High
	Cost Range	$250-$500k
SCADA at Remote Facilities	*Description*	Two of the City's water sources are located 30 minutes away from the staff office and are not accessible through the network. The level of required staff support would be reduced with the ability to control the equipment remotely through SCADA rather than travel to the facilities.
	Objective	Expand SCADA to additional water facilities.
	Benefits	Improved staff productivity.
	Level of Effort	Medium
	Cost Range	$25-$50k
Backflow Management	*Description*	Cross connection control is currently managed using an Access database. This project will implement a COTS solution for testing and cross connection management including a web portal for inputting self-certification. The application will eliminate the incoming hard copy form processing and scanning into SIRE.
	Objective	Improve efficiency and improve customer service.
	Benefits	Improved customer service.
	Level of Effort	Low
	Cost Range	$25-$50k


City-wide

Technology Overview	Several projects have been identified that touch multiple departments within the City and are referred to as City-wide initiatives. These may include expanding existing software (CMMS) or application integration activities (Kronos and Telestaff), new policy (social media), or the acquisition of new software packages (Training, CRM, centralized control, NextGen 911, and cashiering).
Assessment	These initiatives are important to all City departments as they improve services to citizens, but also, improve day-to-day operations. The replacement of the 911 system will become critical as public safety operations move from an analog environment to an interconnected internet protocol based environment which supports the delivery of voice, video, text and data. The records management system currently used by the Fire Department is not seen as an effective long-term solution. The future records management application provided by the SCR 911 JPA should be evaluated for its applicability as should other alternative records management systems which will provide a better central source of information for reporting and better overall vendor support. The City is relying on Kronos and Telestaff for staff scheduling and timekeeping. While these systems are meeting the majority of the City's timekeeping needs, the lack of interfaces/integration to other core City applications (e.g. Eden, CRW, etc.) is resulting in manual processes or timekeeping data being maintained in separate systems. Since Kronos and Telestaff are proven solutions that are widely used by municipalities, the City should plan and implement automated interfaces to reduce manual processes and ensure accurate information is captured and reported. The City relies on CORE to support most of the department cashiering functions. CORE is currently not integrated with other important City applications such as Eden and CRW which results in manual processes to ensure the systems stay in sync. In addition, it makes it difficult for staff to research and analyze payment transactions without direct access to CORE. The City should invest in integrating CORE to Eden and CRW or consider purchasing a new cashiering system.
Applicable Trends	Transparency, Mobility, Analytics, Workflow, Dashboard, Community Engagement, e-Discovery, Integration, Big Data, Cloud Computing.
ITSMP Projects	


Multidepartment Project Name	Dept.	Project Detail	
Citywide CMMS Expansion	**PW, P&R, WTR**	*Description*	The City seeks to expand the use of the Maintenance Connection CMMS system to support work orders for Streets, Traffic, Wharf, Golf, and Water. The Water Department currently uses in-house developed systems to support work order activities (e.g. parts inventory, hydrant, valve, air vent, etc.).
		Objective	Expand the use of Maintenance Connection to become a citywide work order management system.
		Benefits	Improve staff productivity.
		Level of Effort	Medium
		Cost Range	$25-$50k
Training, Certification, and Safety Tracking	**ALL**	*Description*	The City is currently using several different solutions to track training, certifications, and safety. Activity is tracked at HR, as well as at the department level. The City seeks to implement a citywide system capable of tracking training and certifications.
		Objective	Implement a centralized system to track, report, and manage training, certifications, and safety records. Evaluate the capabilities of the existing Eden system to support this activity. If it is not capable, then procure and implement a citywide system.
		Benefits	Improved staff productivity and safety.
		Level of Effort	Low
		Cost Range	$25-$50k
Telestaff and Kronos Integration	**Fire/PD**	*Description*	Currently the Telestaff time reporting and scheduling system is not integrated to the City's Kronos timekeeping system. Kronos is the source of information for payroll. Telestaff is currently used by Fire.
		Objective	Integrate Telestaff to Kronos.
		Benefits	Reduce the manual entry required to support timekeeping and payroll processes.
		Level of Effort	An upgrade to Kronos must be completed first.
		Cost Range	TBD


Citizen Relationship Management (CRM) System	**ALL**	*Description*	Currently the City does not have a centralized and easy to use system to support assigning, tracking, and responding to citizen/business requests. In addition, the City does not have a system that allows staff to determine how citizens and businesses are interacting with the City.
		Objective	Implement a CRM or similar solution that allows the staff to understand how citizens and business are interacting with the City.
		Benefits	Improved customer service., staff productivity, and transparency
		Level of Effort	High
		Cost Range	$100-$125k
Centralized Access Control System	**ALL**	*Description*	The Department seeks to implement a centralized access control system to increase safety and security.
		Objective	Implement a centralized access control system.
		Benefits	Improved staff productivity and safety.
		Level of Effort	
		Cost Range	$100-$125k
Office Space Reorganization	**TBD**	*Description*	The City's office areas are being redesigned to better support the public and staff offices. The level of effort required for information technology support depends on the extent of the relocations and reconfiguration.
		Objective	Staff efficiency and improved customer service.
		Benefits	Improved City Hall public areas.
		Level of Effort	TBD
		Cost Range	TBD


Broadband Strategy Development		*Description*	Connecting all City facilities with City-owned fiber optic cable would reduce the on-going expense for leased network connectivity. Expanding the availability of high-speed internet service would encourage businesses to relocate to Santa Cruz. This project would establish a plan for how to proceed with broadband expansion.
		Objective	Establish high-speed internet.
		Benefits	Reduce on-going City expenses; encourage the business community to relocate or establish in Santa Cruz.
		Level of Effort	Medium
		Cost Range	$50-$100k
Cashiering System	**ALL**	*Description*	The City wants to fully integrate the City's cashiering system (CORE) with Eden and CRW to resolve existing issues. CORE is used at Civic but provides limited functionality.
		Objective	Fully integrate CORE with Eden and CRW, or consider implementing of Tyler's (Eden vendor) Cash Receipting system or expanding the use of Active Networks to have a single centralized cashiering system that is fully integrated.
		Benefits	Improved staff productivity.
		Level of Effort	High
		Cost Range	$100-$150k


Information Technology

Technology Overview	The IT Department operates primarily from a single data center within the City Hall campus. Core network equipment (i.e. routers, switches, SAN, servers) resides in this facility. Computer equipment located outside this facility is connected via a combination of routers and switches utilizing copper, fiber and TI data circuits. The server environment is comprised of 60 physical servers and 42 virtual servers. Additional servers are located at the Police Department, Wastewater Plant, and Water Department. The IT Department supports over 500 desktops, 50 laptops, telephone circuits and numerous cell phones, tablets, and smartphones.
Assessment	The IT Assessment Report dated April, 2013 provides over 100 recommendations for changes and improvements in the IT Department's delivery of service to its customers. The recommendations are attached to this report as Appendix A.
Applicable Trends	Governance, Mobile Data Management, Hybrid Data Centers, Green Computing, Dashboard, Network Security, Integration, Big Data, VDI, Cloud Computing

ITSMP Projects

Project Name	Project Detail	
IT Governance	*Description*	The City's current processes to communicate and ensure alignment of IT resources are informal. The City would benefit by increasing communication and collaboration about IT priorities and technology initiatives.
	Objective	Implement a formal IT Governance structure, processes, and tools to ensure IT alignment with Citywide strategic priorities.
	Benefits	Improve staff productivity.
	Level of Effort	Low.
	Cost Range	No cost.


Desktop Technology Refreshment	*Description*	Currently the desktops that support departments run on varying operating systems (e.g. XP, Windows 7) and multiple versions of Microsoft Office (e.g. 2003, 2007, and 2010). This creates issues when sharing documents or providing support.
	Objective	Upgrade existing desktop software, and hardware if necessary, to create a consistent desktop software environment.
	Benefits	Improved sharing of documents and information.
	Level of Effort	Low
	Cost Range	$250-$500k
Email Archival and Retention	*Description*	City staff must store old email offline on their desktops or other folders because of the email box size restrictions. This creates a problem for staff in quickly retrieving items. For staff that are involved in projects and grants that span a long period of time, there is a need for greater storage.
	Objective	Research and implement a solution to address staff issues with limited email boxes.
	Benefits	Improved staff productivity.
	Level of Effort	Medium
	Cost Range	$50-$100k
Telecommute Policy and Solution	*Description*	The City staff desires to take greater advantage of telecommuting. To be effective, they need secure and easy access to City systems.
	Objective	Research and implement a telecommute policy and associated tools and processes.
	Benefits	Improved staff productivity.
	Level of Effort	Medium
	Cost Range	$50-$100k
Threat Protection Solution	*Description*	The Department seeks to implement a solution to improve the ability to identify potential threats to the City's network. The scope of network security increases with the expanded use of mobile devices.
	Objective	Implement a proven threat protection solution.
	Benefits	Improved network and data security.
	Level of Effort	Medium
	Cost Range	$50-$100k


City Hall Data Center Backup Power Generator	*Description*	The Department seeks a more powerful backup power generator to ensure adequate power to perform an orderly shutdown of the technology systems in the event of a power outage to avoid damage to computer equipment or performance issues when restoring the systems.
	Objective	Implement a new power generator designed to support technology needs.
	Benefits	Improved reliability.
	Level of Effort	Medium
	Cost Range	$50-$100k
Virtual Desktop Infrastructure	*Description*	The Department seeks to implement a Virtual Desktop Infrastructure to reduce time to provision (install) new desktops, improve security and patch management, and possibly reduce desktop refreshment expense.
	Objective	Research and implement a virtual desktop infrastructure.
	Benefits	Improved staff productivity, customer service, and reliability.
	Level of Effort	Medium
	Cost Range	$250-$500k
City Hall Campus Video Upgrade	*Description*	Upgrade the video installed at the City Hall campus.
	Objective	Improve the quality of the video.
	Benefits	Ability to review video in the event of an incident.
	Level of Effort	Medium
	Cost Range	$100k (FY13/14 budget)
Network Redesign	*Description*	The City's current network is fragmented and based on aging technology. The IT department wants to complete a redesign of the network to ensure it is prepared to support the expanding needs of the City departments.
	Objective	Complete comprehensive analysis, design, and implementation of City network.
	Benefits	Improved staff productivity, customer service, and reliability.
	Level of Effort	High
	Cost Range	$250-$500k


City Hall Data Center Upgrades	*Description*	This project includes the installation of video, environmental controls; and access will require a key card.
	Objective	Data center security.
	Benefits	Increased reliability.
	Level of Effort	Medium
	Cost Range	
GIS Roadmap	*Description*	The City departments realize the value of GIS in supporting operations Departments are not clear on what the GIS priorities are or what plans are for continuing to expand GIS to support department use.
	Objective	Develop a GIS roadmap that educates staff on the goals and plans for GIS for the next 3 – 5 years.
	Benefits	Improved staff productivity and customer service.
	Level of Effort	Medium
	Cost Range	$25-$50k
Wide Area Network Upgrades	*Description*	Through vendor negotiations, upgrades of leased T-1 communication lines to fiber optic cable were secured with no installation cost. The locations include Fire Station 3, Ranger Station, Loch Lomond, Harvey West, Netcom, Landfill, Wharf, River St. parking garage, Front St. parking garage, Water Plant and Waste Water Plant.
	Objective	Improved communication.
	Benefits	Improved network speed and reliability and lower cost.
	Level of Effort	Medium
	Cost Range	$0-$25k


Netcom – Santa Cruz Regional 9-1-1 JPA

Project Name	Project Detail	
Record Management System (RMS) Replacement	*Description*	Currently the Police Department uses the Alliance record management solution provided by the 911 center. The current solution is shared by several agencies and is targeted to be replaced in the next 3 – 5 years.
	Objective	Working with the 911 center and other regional partners, procure and implement a new record management system that better supports the current and future needs of the Police Department.
	Benefits	Improved ability to perform research and analysis.
NexGen 911	*Description*	The City is seeking to replace the existing 911 systems, including the record management system (RMS), mobile devices, and radios to take advantage of new technology features and functionality to improve response time and information to the officers/firefighters.
	Objective	Work with NetCom to identify and replace existing CAD, RMS, and mobile technologies to create the NexGen 911.
	Benefits	Improve staff safety, customer services, and productivity.
Mobile Data Terminal (MDT) Bandwidth Expansion	*Description*	The MDT's in public safety vehicles currently rely on 14.4 Baud modems which limits the information and use of the MDT's. Officers are expanding the use of photos and the Internet while on duty. Currently many officers rely on personal smartphones for these activities.
	Objective	Implement network connectivity via Cellular air card or other available technology to allow the MDTs to have increased bandwidth.
	Benefits	Increased information available to the officers on duty; thereby increasing both public and officer safety.


3.9 Timeline and Costs

To be successful, the ITSMP must establish a realistic and achievable schedule as to when projects can be completed. The project timeline presented in Table 1 on the following pages provides a clear roadmap for the City in terms of project planning and budgeting.

During the prioritization workshop, NexLevel facilitated a process that allowed the City staff to actively participate in establishing the project implementation sequence using a combination of needs, staff resources, risk to the City, and budget.

For each project, NexLevel included a planning and evaluation period, and it is during this time that City staff will define detailed requirements, develop and release a request for proposal (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 staff training to ensure ongoing support of the technology implemented. To implement projects without addressing staffing requirements will jeopardize support and service levels.


Table 1 – Technology Project Timeline

Projects	Department	FY13/14		FY 14/15				FY 15/16				Future
		Q3 J/F/M	Q4 A/M/J	Q1 J/A/S	Q2 O/N/D	Q3 J/F/M	Q4 A/M/J	Q1 J/A/S	Q2 O/N/D	Q3 J/F/M	Q4 A/M/J	Future
Video Conferencing	Fire	Impl.										
Interview Room Recording System	Police	Impl.										
IPACS-LIMS Integration	Water	Impl.										
Stream Level Monitoring	Water	Impl.	Impl.									
Threat Protection Solution	IT	Impl.	Impl.									
Eden Version Upgrade	Enterprise	Impl.	Impl.									
SIRE Version Upgrade	Enterprise	Impl.	Impl.									
Parking Garage Invoicing	Public Works	Impl.	Impl.									
Voice Recognition Software	Police	Impl.	Impl.									
City Hall Data Center Upgrades	IT	Impl.	Impl.									
CRW Field Access (TrakIT)	Enterprise	Impl.	Impl.									
Financial System Reporting Enhancement	Finance	Impl.	Impl.									
Residential Parking Permits	Public Works	Impl.	Impl.									
CMMS for Water	Water	Impl.	Impl.	Impl.								
Automated License Plate Recognition System	Police	Impl.	Impl.	Impl.								
Backflow Management Application	Water	Impl.	Impl.	Impl.								
City Hall Campus Video Upgrade	IT	Plan	Impl.									
Online Personnel Action Form (PAF)	HR	Plan	Impl.	Impl.								
IT Governance	IT	Plan	Impl.	Impl.								
Conservation Data Support	Water	Plan	Impl.	Impl.								
CRW Water Permits	Water	Plan	Impl.	Impl.	Impl.							
Telecommute Policy and Solution	Enterprise	Plan	Plan	Impl.	Impl.							
CRW Online Services (E-TrakIT)	Planning	Plan	Plan	Impl.	Impl.	Impl.						
City Web Site Upgrade	Enterprise	Plan	Plan	Plan	Impl.	Impl.						
Sanitation Refuse Routing	Public Works	Plan	Plan	Plan	Impl.	Impl.	Impl.					






Table 1 – Technology Project Timeline (continued)

Projects	Department	FY13/14		FY 14/15				FY 15/16				Future
		Q3 J/F/M	Q4 A/M/J	Q1 J/A/S	Q2 O/N/D	Q3 J/F/M	Q4 A/M/J	Q1 J/A/S	Q2 O/N/D	Q3 J/F/M	Q4 A/M/J	Future
Citizen Relationship Management (CRM) System				Plan	Plan	Plan	Impl.	Impl.	Impl.			
Automated Metering Infrastructure & MDMS Planning	Water				Plan	Plan	Impl.	Impl.	Impl.	Impl.		
Utility Billing/Customer Information System (CIS)	Water				Plan	Plan	Impl.	Impl.	Impl.	Impl.		
48 Hour Outbound Calling												Future
Absence Management System & Kronos Integration												Future
Access Database Enhancements												Future
Agenda Management Enhancements												Future
Agenda Management for Boards and Commissions												Future
Chemical Inventory Upgrade												Future
Citywide Network Re-design												Future
Class System Replacement												Future
CMMS Expansion - Wharf and Golf Course												Future
CRW and Kronos Integration												Future
Document Management System Enhancements												Future
Emergency Operations Center (EOC) Solution												Future
Financial System Enhancement - Accounts Payable Web												Future
Financial System Enhancement - Contract Management Web												Future
Library Acquisition System Integration with Eden												Future
Mobile Data Terminal (MDT) Bandwidth Expansion												Future
NETCOM												Future
NexGen 9-1-1												Future






Table 1 – Technology Project Timeline (continued)

Projects	Department	FY13/14		FY 14/15				FY 15/16				Future
		Q3 J/F/M	Q4 A/M/J	Q1 J/A/S	Q2 O/N/D	Q3 J/F/M	Q4 A/M/J	Q1 J/A/S	Q2 O/N/D	Q3 J/F/M	Q4 A/M/J	Future
Police Records Management System Replacement												Future
Prog												Future
Project and Grant Tracking System												Future
SCADA at Remote Facilities												Future
Special Event Permits												Future
Staff Scheduling Application												Future
Telestaff and Kronos Integration												Future






Table 2 - ITSMP Estimated Cost, presents the estimated costs for all projects, totaled by fiscal year.

Table 2 – ITSMP Estimated Cost

Fiscal Year	Est. Low Cost	Est. High Cost
In Progress		
FY 14/15		
FY 15/16		
Future		
Total		


4 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.

The City of Santa Cruz recognizes the importance of leveraging technology to meet the growing business and service delivery needs in the most cost effective manner. The ITSMP 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.

The City has made progress by enhancing and improving its existing technology environment. However, it is evident from the number of projects in the ITSMP that 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 ITSMP recognizes this and places a high level of importance on implementing a formal technology governance process to help manage and provide oversight to technology implementations.

The ITSMP is a result of a comprehensive, City-wide planning effort that provided the opportunity for management and staff to review, discuss, and integrate their technology needs into a common framework. It provided a common understanding of the City's technology priorities, and served as a tool to provide 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 ITSMP 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 the projects do not adversely impact other components within the City's technology environment.

While the creation of the ITSMP 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 ITSMP. The IT Department must now work closely with City management, 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. Santa Cruz has the opportunity to transform the enterprise into an environment that has the information it needs to function at peak performance, while it and its constituents are well connected in a seamless, effective manner.