



The City of Fresno Strategic Technology Master Plan

Prepared by:



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FINAL REPORT

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This Strategic Technology Master Plan was developed for the City of Fresno by
 NexLevel Information Technology, Inc.

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Section 1 – Introduction

“The secret of success is not predicting the future; it is creating an organization that will thrive in a future that cannot be predicted.” – Michael Hammer, author and noted authority on Business Process Re-Engineering

1.1 – Scope and Objectives

This document, entitled Strategic Technology Master Plan, was prepared for the City of Fresno (City) by NexLevel Information Technology, Inc., (NexLevel) as the culmination of an extensive process of information gathering, analysis, collaboration and review that included several workshops with key members of the City’s management team to review and prioritize proposed strategic information technology projects.

The Strategic Technology Master Plan will enable the City to better allocate its information technology resources and to obtain greater benefits for its investments in information technology. The plan does not attempt to predict the future; but rather, to enable the City to more effectively respond to new and/or changing requirements by proactively adapting processes, organization, people, and infrastructure.

Terminology

To avoid confusion, concepts and observations in this document regarding the use of information technology in general are spelled out (“information technology”) or abbreviated as “IT”, while “ISD” is used to reference the City’s Information Services Department. Additionally, the term “IT Strategic Plan”, as used in this document, is interchangeable with the City’s Strategic Technology Master Plan, or STMP.

1.2 – Document Organization and Contents

This document consists of the following sections:

- ◆ **Section 1, Introduction** – (this section) which provides information regarding the scope and objectives of the planning effort, the organization of the document, the methodology used to develop the Strategic Technology Master Plan, and an Executive Summary.
- ◆ **Section 2, The City’s Current IT Environment** – which provides a summary of the findings and recommendations provided in the IT Assessment Report that was previously prepared for Fresno to document the City’s current information technology environment including an overview of the City’s conformance to IT best practices and the resulting recommendations.
- ◆ **Section 3, Enterprise Information Technology Trends** – which provides a discussion of the most significant changes in information technology which will likely impact the City over the duration of the Strategic Technology Master Plan.
- ◆ **Section 4, Strategic Technology Master Plan** – which provides information regarding the open and collaborative process that was used to develop the Plan, including the steps in its development and refinement and the resulting project roadmap.
- ◆ **Section 5, Conclusion** – which provides thoughts and observations for the City’s consideration based on NexLevel’s experience in developing technology plans for local governments and special districts in the State of California.

1.3 – IT Strategic Planning Methodology

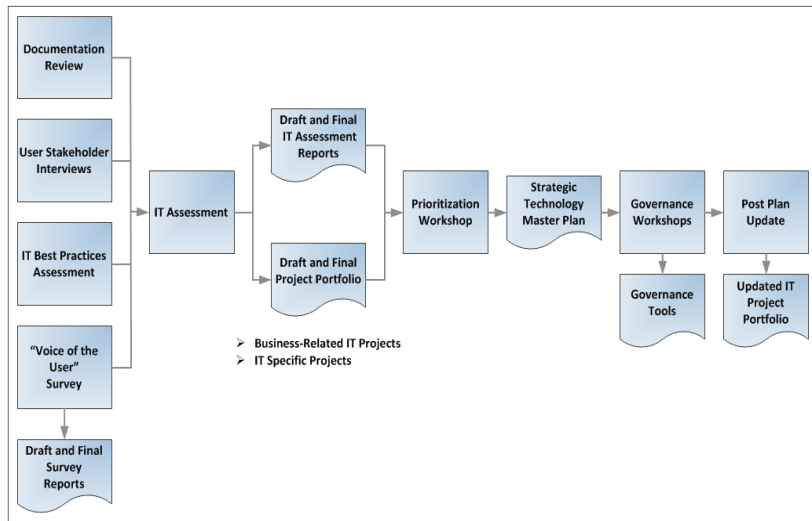


Figure 1 –Methodology

Figure 1, Methodology, depicts the process used to develop the City’s Strategic Technology Master Plan. The IT Assessment Report (left, middle) was completed in August 2016 and was developed based on information gathered through:

- ◆ A review of the City’s IT documentation and procedures.
- ◆ A survey of the user’s satisfaction with the IT services provided by the City along with open-ended responses as to what ISD does well and areas where ISD could improve.
- ◆ Interviews with key stakeholders in the City’s user community.
- ◆ An assessment of the City’s conformance to a set of IT best practices including an assessment of the security of the City’s network and physical facilities that was performed by an independent security specialist.

Following review of the IT Assessment Report by the City, NexLevel developed a list of potential strategic information technology projects and incorporated that list into a project portfolio that provides information for each of the projects including the project’s sponsor, description, estimated low and high-end costs, the level or risk and the level of effort involved, and an assessment of the project’s potential business impact. The project portfolio was reviewed by the City, updated by NexLevel, and provided the starting point for the Prioritization Workshop (just right of center in the diagram).

The Prioritization Workshop was held on October 3, 2016 with the objectives of:

- ◆ Reviewing the project portfolio with the City’s key stakeholders including the City Manager and department heads.
- ◆ Adding, changing, or deleting projects as needed.
- ◆ Identifying the most critically-needed projects and assigning them to a timeline.
- ◆ Achieving consensus on the preliminary project timeline.

The outcome of these activities is the completion of this report – the Strategic Technology Master Plan, which will be utilized by the City as a roadmap for the procurement and implementation of technology projects and activities over the next three to five years.

The next step to be undertaken is the establishment of a technology governance framework for the City. This framework will establish the foundation for Citywide technology delivery, including overall technology direction, resource allocation, and regular monitoring of, and reporting on, STMP projects and activities. The City’s

information technology governance committee will utilize the STMP as the guiding document for prioritizing technology decisions.

1.4 – Executive Summary

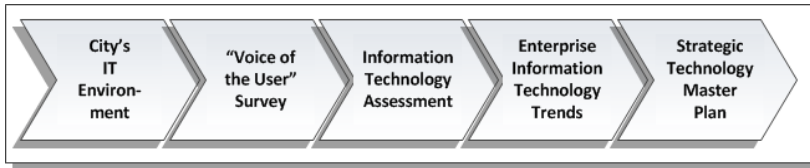


Figure 2 –STMP Executive Overview

As depicted in Figure 2, STMP Executive Overview, this section of the Strategic Technology Master Plan provides a high level summary of the City’s current information technology environment and the challenges being faced by the City of Fresno, as well as other municipalities, due to not only the continuing changes in the way information technology is being used, but also due to changes in information technology itself. Additionally, this section provides information regarding the development of the Strategic Technology Master Plan and the recommendations and strategic directions provided in the plan.

The City’s Current IT Environment

The changes in the capabilities (and complexity) of information technology and how organizations use information technology have been profound. Within a relatively short timeframe, developments including reliance on the Internet, mobile computing, mobile applications, etc., have transformed information technology from a back-office productivity tool to a strategic enabler for the delivery of City information and services to the public.

Whereas the public might not have noticed in the past if an information system was unavailable or slow, it is now immediately evident to both the City’s internal user community and the public. These changes, in turn, necessitate changes in how cities govern, fund, manage, and deliver information technology services. In

particular, factors such as reliability, availability, performance of IT services, and the quality and timeliness of information now command the attention of cities that are seeking to use information technology to improve the effectiveness and productivity of municipal services.

The City of Fresno has a hybrid information technology environment that includes centralized business applications and IT services that are supported by ISD, as well as business applications and IT services that are supported by individual departments with varying degrees of coordination with ISD. While this hybrid information technology environment has promoted agility, economic growth, and the deployment of solutions and services that might not have been otherwise been possible in recent years, it has also increased the need for IT governance to ensure that the “pieces fit” and that the City is maximizing its opportunities to leverage IT investments (such as by sharing business applications where feasible rather than replicating them). This is where the Strategic Technology Master Plan comes into play.

The STMP was developed for the City of Fresno by NexLevel as the culmination of an extensive process of information gathering, analysis, collaboration and review that included several workshops with key members of the City’s management team to review and prioritize proposed strategic information technology projects. The key components of this process included:

- ◆ An anonymous, city-wide survey of user satisfaction with the City’s information technology infrastructure and with the services provided by ISD.
- ◆ The development of a detailed information technology assessment.

- ◆ The development of the Strategic Technology Master Plan that is detailed in this document.

Key findings and recommendations resulting from each of these activities are summarized below.

“Voice of the User” Survey

An anonymous, online user survey was conducted from February 22, 2016 to March 11, 2016. Of the approximately 3,684 City staff invited to take the survey, 478 employees participated, a 12.9% response rate. Approximately 32% of the respondents classified themselves as being executives, managers, or supervisors. Although NexLevel tends to be cautious in drawing conclusions from the user survey alone, the results of the survey provided insights as to the satisfaction of the City’s user community with the services provided by ISD and the City’s information technology infrastructure.

The results of the “Voice of the User” survey are discussed in greater detail in Section 2, Fresno’s Current IT Environment; however, the survey found that 79% of the participants were satisfied, overall, with the services provided by ISD, which is generally consistent with the level of overall satisfaction reported in prior surveys of this type conducted by NexLevel.

Information Technology Assessment

The information technology assessment included a series of interviews with key user stakeholders and members of the City’s management team, the “Voice of the User” survey discussed in the prior section, interviews with Information Systems Department (ISD) management and staff, and a comprehensive assessment of the degree to which the City’s practices and procedures conform to a set of IT best practices.

More detailed information regarding the results of the IT Assessment are provided in Section 2.2, Summary of IT Assessment; however, in general, the assessment found that while the City’s conformance to IT best practices are generally characteristic of an organization that has a proactive approach to the governance of information technology and the management and delivery of IT services, that this has not always directly translated into the effective delivery of IT services as a result of funding and staffing constraints as well as the City’s hybrid information technology environment.

The specific recommendations resulting from the IT Assessment included:

- ◆ The City should augment its approach to IT Governance.
 - 7/3/2021 -This has been accomplished. New City Administration has made ISD the City’s authority for technology and security. In addition, no new IT positions will be created outside of the department. In 2021, ISD acquired several positions that will serve in departments taking care of that business need, but reporting to ISD. This includes positions for the Airports, FAX and Planning. This is the new model that is being used by the City for technology positions/support.
- ◆ The City should take steps to: (a) improve the utilization of PeopleSoft and, (b) develop an ERP roadmap.
 - 7-3-2021 - The City is replacing PeopleSoft. An RFP was issued and PeopleSoft is being replaced by Tyler. Utility Billing will also be replaced by Tyler. The project has been funded and the implementation is underway.

- ◆ The City should develop an Application Portfolio and rationalize business applications.
 - 7/13/2021 - This is underway.
- ◆ The City should develop and adopt Business Continuity and Disaster Recovery plans.
 - 7/13/2021 – This is underway. The City has reviewed and revised its Continuity of Operations Plan (COOP) and ISD is currently revising its Disaster Recovery Plan to adjust to new networking equipment as well as ERP replacement.
- ◆ ISD should further adopt information technology best practices.
 - 7/13/2021 – This has been accomplished.
- ◆ ISD should improve network security and develop a NIST-conformant cyber-security plan.
 - 7/13/2021 – This has been accomplished. There is a new CyberSecurity Division with a Manager, a Senior CyberSecurity Analyst and a CyberSecurity Analyst. The three positions are new and the only position that needs to be filled is the newly created CyberSecurity Analyst.
- ◆ The City should re-consider the organization and staffing of ISD.
 - 7/13/2021- This has been accomplished. The new model that is being used is to create technology positions that serve other departments, but report to ISD.

Enterprise Information Technology Trends

To a large degree, the Strategic Technology Master Plan is driven by the City’s current information technology environment, current opportunities to improve it through the adoption of newer, but nonetheless mainstream, developments in information technology, and emerging information technologies that will likely mature and become mainstream over the planning horizon encompassed by the plan (i.e., through FY 2020/21). The enterprise information technology trends considered include the following:

- ◆ **Alignment of business and digital strategies:** The recognition of the linkage between operational and digital strategies and the need to align them has been slow to take hold in the public sector even as local governments have allocated resources to enable the public to better access government services and information using the Internet. The City will need to take a more holistic approach as to how these services (such as FresGO, the redesigned website, and social media) are integrated into City operations and deployed.
- ◆ **Enterprise data architecture and business intelligence:** Cities have already accumulated massive amounts of information; however, that information tends to be inconsistently stored in siloed repositories, and this limits their ability to readily access the information and use it to manage performance or to analyze trends.
- ◆ **Enterprise document and content management:** Enterprise document and content management has been in the mainstream for some time and has well established and verifiable cost-benefits.
- ◆ **Organizational change management (OCM):** Although OCM has been in use for some time, public sector entities

have been more willing to expend resources on transformational technologies rather than on the effort required to fully realize the benefits of these technologies

- ◆ **Digital government:** Digital government is continuing to evolve as a concept and a methodology for the delivery of government services and information to the public via the internet, and will likely become more defined and mature in future years, particularly with regard to the need for digital access to support the needs of disabled members of the community.
- ◆ **Mobility and the consumerization of information technology:** Mobility is directly related to digital government since increasingly, both internal users and the public are accessing services and information in a mobile, wireless environment, where traditional web-pages do not translate well and as the number of mobile devices (and their capabilities) evolves rapidly.
- ◆ **Cybersecurity:** Cybersecurity has rapidly emerged as a high-priority concern in the public sector as the adoption of wireless and cloud-based services for both internal users and the public has made City information assets vulnerable to unauthorized access, modification, and destruction.
- ◆ **Strategic sourcing / cloud services:** With the migration of most business applications to a browser-based user interface, the gradual shift of product providers from on premise installations to hosted installations, and the greater availability of web-based services, organizations are better able to source services than in the past. While not all web services have become part of the mainstream at this point, the use of web-based applications (Software-as-a-Service) and IT infrastructure (Platform-as-a-Service) are viable options f

Strategic Technology Master Plan

In the course of the development of the Strategic Technology Master Plan approximately sixty projects involving nearly every City department or office (including projects currently in progress as well as planned) were identified and planned for implementation though FY 2020/21. The predominant themes of the various projects include:

- ◆ The establishment of a more comprehensive and proactive approach to City-wide technology governance, the intent of which is to provide guidance for the implementation of recommendations to improve and enhance technology service delivery, along with the overall management of the Strategic Technology Master Plan.
- ◆ Projects to renovate or replace key components of the City's information technology infrastructure, including refreshment of personal computers, servers, the City's network, and the public safety communications system.
- ◆ Projects to assess, renovate, or replace key business applications including the City's PeopleSoft ERP application, the consolidation of disparate work order systems, and the completion of the implementation of Accela for land management.

The success of the Strategic Technology Master Plan will be dependent on:

- ◆ The ability of the City to manage the plan over time as priorities and user requirements change, new requirements and priorities emerge, and new approaches to the delivery of information technology become available.
- ◆ The ability of the City to effectively manage and allocate user and IT staff resources. To a large degree, these

resources are already heavily committed to supporting operations and maintaining the City's legacy business applications and their supporting IT infrastructure. The City will need to be able to allocate resources in accordance with City-wide directions and priorities and free-up existing IT staff resources by shifting less value-added IT activities to contractors or external service providers, as well as taking advantage of cloud-based services where feasible.

Additional information regarding the information technology projects and the process used to develop the plan is provided in Section 4, Strategic Technology Master Plan.

Observations

Section 5, Conclusion, provides specific observations related to key areas for the City including:

- ◆ The role of leadership in promoting organizational change management as it relates to the City's implementation of the recommended processes for IT governance and resource planning that were detailed in the IT Assessment Report.
- ◆ The role of IT governance in promoting the effective use of information technology, enabling organizational agility, and ensuring that the City receives the highest possible return for its investments in IT.
- ◆ The importance of ensuring that the City has a strong IT foundation to provide the platform for effective use of business applications, productivity tools such as document management, and the eventual use of information for decision making, managing organizational performance, and predictive analysis.

Section 2 – The City’s Current IT Environment

As outlined previously, NexLevel utilized several methods to gather data regarding the City’s current technology environment, user perceptions regarding IT service delivery, and the adequacy of current technologies in meeting the City’s business needs. These included utilization of an anonymous, online survey tool, a series of interviews with key staff in user departments and ISD, and a comprehensive assessment tool that gauged the degree to which the City’s practices and procedures conform to a set of IT best practices.

2.1 – Summary of “Voice of the User” Survey

The user survey is one of the data points that NexLevel evaluated to assess the effectiveness of the services provided by ISD, and user satisfaction with those services. The user survey included both rated questions (where the respondents were asked to provide their satisfaction on a scale) as well as open-ended questions that enabled users to provide additional information. The user survey was conducted from February 22, 2016 to March 11, 2016. Of the approximately 3,684 City staff invited to take the survey, 478 employees participated, a 12.9% response rate. Approximately 32% of the respondents classified themselves as being executives, managers, or supervisors.

Although NexLevel tends to be cautious in drawing conclusions from the user survey alone, it provides insight into city-wide perceptions of what ISD does well and what it could do better. Notable findings from the user survey included:

- ◆ Over 92% of the respondents who identified themselves as being part of the City’s management team indicated that

they were satisfied with ISD’s understanding of the City’s business objectives, over 74% indicated they were satisfied with ISD’s understanding of department business operations, and over 59% reported that they were satisfied with the City’s information technology planning efforts

- ◆ When asked to rate their satisfaction with the City’s information technology infrastructure, 79% reported that they were satisfied with network availability, 65% with the speed of the internet connection, 94% with the control of spam and blocking of unwanted e-mails, over 94% with communications regarding outages and updates, and just under 70% with the availability of wireless / mobile services
- ◆ When asked how often they had contacted ISD for support in the last two months, 46% of the respondents reported that they had contacted ISD 1 or 2 times during that period, 24% contacted ISD 3 to 5 times, and 15% contacted ISD more than 5 times
- ◆ In considering these contacts with ISD:
 - Over 90% of the respondents reported that they were satisfied with the process to contact ISD
 - 88% of the requests were acknowledged immediately and 30% within four hours
 - 78% of the respondents noted that they were satisfied with ISD’s support
- ◆ Over 81% of the respondents were satisfied with the business applications that they use, and over 63% were satisfied with the training that they had received on these applications

Overall, this indicates that the users responding to the survey generally felt that ISD is meeting or exceeding their expectations

with regard to infrastructure, applications, and support. A detailed report containing specific results of the user satisfaction survey was delivered to the City in April 2016.

2.2 – Summary of IT Assessment

The IT Assessment was developed using information that resulted from a survey of technology users regarding their satisfaction with the City’s IT environment, interviews with key user stakeholders, interviews with the IT Manager and ISD staff, an IT best practices review, and a review of the security of the City’s network and physical facilities by an independent firm specializing in cybersecurity. This process provided a detailed depiction of the City’s current information technology environment, user expectations, current unmet needs, and future requirements.

The information gathered from these sources was consolidated to provide a holistic view of where the City stands with regard to conformance to the IT best practices in six key dimensions, and this is depicted in Figure 3, City Conformance to IT Best Practices. Each of the rings in Figure 3 represents a band of conformance to IT best practices, with the red band representing 0% to 20% conformance, the orange band representing 20% to 50% conformance, the tan band representing 50% to 80% conformance, and the two green bands at the center representing 80% to 100% conformance.

The significance of the rings is as follows: NexLevel views organizations that have less than 50% conformance to the IT best practices as being essentially reactive in their approach to the governance, management, and delivery of information technology services, while organizations that are more than 50% conformant to IT best practices are regarded as being more proactive. Organizations that are more proactive are better able to obtain greater benefits for their investments in information technology

than those that are not, and while reactive organizations often spend less on information technology (and thus have a lower total cost of ownership for information technology); they realize less value for their investments in IT and are generally less able to effectively respond to new requirements.

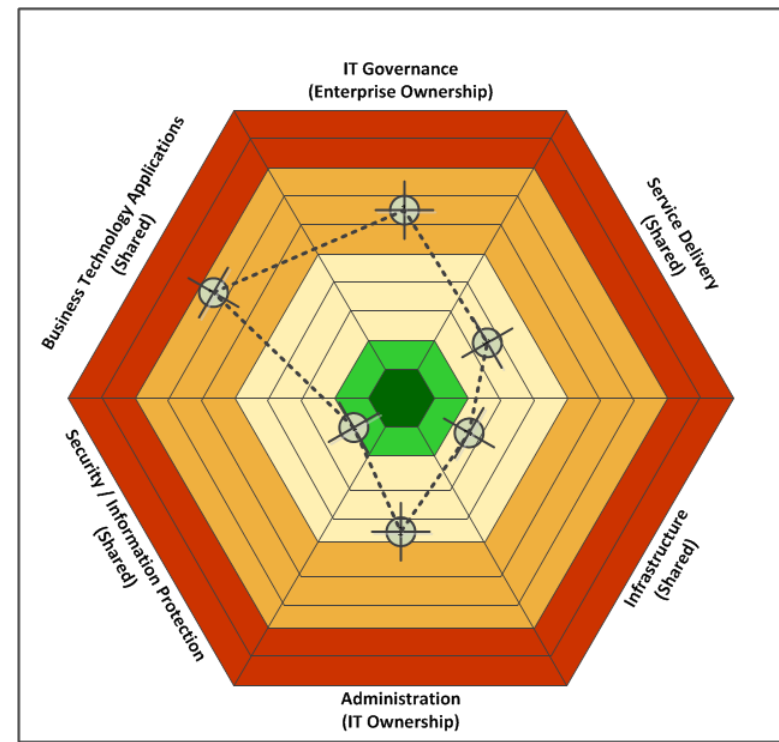


Figure 3 – City Conformance to IT Best Practices

NexLevel has also divided the chart into six segments, each segment representing one of the six key dimensions of NexLevel’s IT best practices model. The City’s conformance with the best practices in each of the categories has been plotted, and these points connected with a dotted line to provide a perspective of the City’s overall conformance. As shown in Table 1, City Conformance to IT

Best Practices, the City of Fresno’s overall rating is at 58% conformance to the best practices, which exceeds the previous highest conformance for similar assessments conducted by NexLevel, although individually IT governance at 35% is just greater than average and business technology applications at 26% is less than average.

Table 1 – Comparison of IT Best Practice Conformance

Best Practice Dimension	Best Practice Conformance			City of Fresno
	Low	Average	High	
IT Governance	10%	34%	50%	35%
Service Delivery	30%	40%	53%	63%
Business Tech. Applications	20%	35%	43%	26%
Infrastructure	15%	50%	74%	74%
Security / Information Protection	35%	49%	71%	81%
IT Administration	20%	40%	61%	55%
Overall Conformance	26%	41%	54%	58%

Conformance to IT best practices alone, however, does not necessarily result in the effective delivery of information technology services. As depicted in Figure 4, Factors Enabling IT Service Delivery, the ability of an IT organization to execute is also dependent on not only best practices conformance, but also on enabling factors such as organizational mission and vision, organizational culture, as well as IT funding and IT organization and staffing.

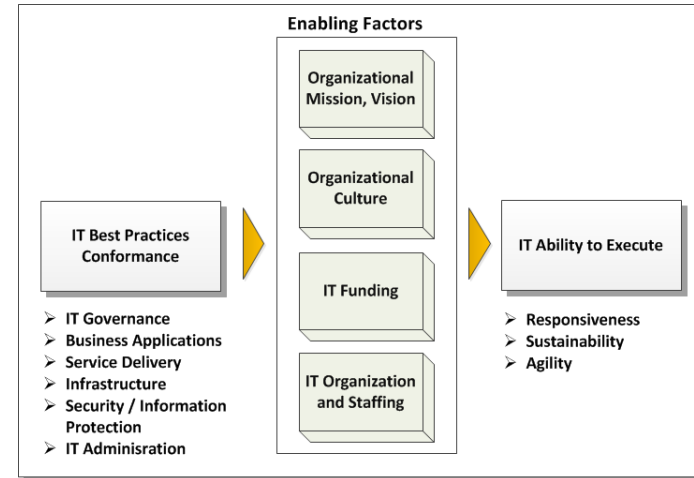


Figure 4 – Factors Enabling IT Service Delivery

The latter (IT funding and the staffing and organization of ISD) were found to be particularly relevant for the City of Fresno, where restricted budgets over the last few years did not enable ISD to fully maintain and refresh components of the City’s information technology environment nor to maintain staffing levels.

The goals for the City of Fresno emerging from the IT Assessment include steps to improve IT best practice conformance in governance and business technology applications, while remediating the factors that are inhibiting, rather than enabling, the effective delivery of information technology services - so that the City can realize an optimal balance between total cost of ownership, return on investment, and agility.

Strengths	Weaknesses
<ul style="list-style-type: none"> ➤ The City has a forward-thinking approach regarding the use of IT to promote economic development ➤ Individual departments have been creative in obtaining funding for IT initiatives ➤ The City has implemented a Tier-1 ERP solution (PeopleSoft) 	<ul style="list-style-type: none"> ➤ Highly decentralized and siloed IT environment ➤ PeopleSoft is not fully implemented and embraced by departments ➤ IT staffing is not sufficient to meet the City's needs ➤ Planning for business continuity is limited and inconsistent
Opportunities	Threats
<ul style="list-style-type: none"> ➤ Improve ROI for IT investments through the expansion of IT governance and through the alignment of IT priorities and resources with City-wide priorities and objectives ➤ Improve delivery of IT services to internal and external user communities 	<ul style="list-style-type: none"> ➤ Limited ability to successfully complete enterprise IT projects ➤ Increased TCO for IT and limited agility as a result of decentralized IT environment ➤ Limited ability to sustain IT services in the event of natural disasters and other events

Figure 5 – SWOT Analysis

Another perspective of the City's present information technology environment is provided by the results of the SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis depicted in Figure 5, which is also based on the IT best practices assessment and provides a summary of ISD's strengths and weaknesses and the opportunities and threats facing the City as a whole in its use of information technology.

Looking at the City of Fresno in this framework, NexLevel found that on balance the City has both significant strengths and opportunities; however, it must act to remediate the weaknesses and potential threats in how it governs and delivers information technology services.

As noted previously, although the City has a progressive and forward-thinking approach to the use of information technology, it will need to carefully govern its hybrid information technology environment. In NexLevel's view, this hybrid information technology environment is not inherently problematic; however, it does increase the need for IT governance to ensure that the "pieces fit" and that the City is maximizing its opportunities to:

- ◆ Leverage IT investments (such as by sharing business applications where feasible rather than replicating them)
- ◆ Increase IT staff productivity by reducing the need to investigate and/or troubleshoot business applications that are not a good fit for the City's overall information technology architecture or that have been configured in a manner that is inconsistent and/or non-conformant to IT best practices
- ◆ Ensure the sustainability of the IT services provided to the City's internal user communities and to the public

2.3 – Assessment Recommendations

The recommendations developed in the course of the IT Assessment are briefly described below.

Recommendation	Objectives
<p>The City should augment its approach to IT Governance</p>	<ul style="list-style-type: none"> ▪ Provide a balanced approach to the use of information technology that permits departments to respond to specific needs while ensuring that information technology spending and resources are aligned with City-wide directions and priorities ▪ Improve the ability of the City to align IT projects and priorities with City-wide objectives and priorities, with the objectives of enabling the City to focus resources on its highest operational priorities and to better leverage its investments in information technology and thus improve its return on investment (ROI)
<p>The City should take steps to improve the utilization of PeopleSoft and develop an ERP roadmap</p>	<ul style="list-style-type: none"> ▪ Improve user productivity and timeliness / quality of information in the ERP system by ensuring that users are familiar with the features and functionality of the application, reduce dependency on the use of ad-hoc spreadsheets and databases for information that should be stored in the ERP system ▪ Develop a strategy that enables the City to migrate to a fully supported software version and strikes a balance between initial investment and long-term benefits through ERP use

Recommendation	Objectives
<p>The City should develop an Application Portfolio and rationalize business applications</p>	<ul style="list-style-type: none"> ▪ Improve the ability of the City to leverage existing information technology investments, reduce total cost of ownership and improve return on investment, and encourage re-use of existing information technology assets ▪ Identify and plan for the replacement of business applications that no longer meet user requirements or that are nearing the end of vendor support ▪ Improve the ability of the City to plan for the exchange of information between applications to improve data use, timeliness, and accuracy
<p>The City should develop and adopt Business Continuity and Disaster Recovery plans</p>	<ul style="list-style-type: none"> ▪ Ensure the availability of critical business applications and ensure that they can be restored following a natural or other disaster
<p>ISD should further adopt information technology best practices</p>	<ul style="list-style-type: none"> ▪ Improve the ability of ISD to effectively manage and deliver information technology services including managing and meeting user expectations
<p>ISD should improve network security and develop a NIST-conformant cyber-security plan</p>	<ul style="list-style-type: none"> ▪ Improve the ability of the City to prevent, detect and block cybersecurity threats and to recover from cybersecurity attacks, including user education regarding protection of City information assets when using mobile devices
<p>The City should re-consider the organization and staffing of ISD</p>	<ul style="list-style-type: none"> ▪ Improve the ability of ISD to meet user expectations, to take advantage of information technology trends, and to support the continued and enhanced use of information technology in the City

Section 3 – Enterprise Information Technology Trends

The ways in which organizations use information technology are changing, as are the expectations of internal and external stakeholders for access to information and services. A 2010 survey of Chief Executive Officers (CEOs) by IBM found that:

- ◆ Today’s complexity is only expected to rise, and more than half of CEOs doubt their ability to manage it
- ◆ Creativity is the most important leadership quality
- ◆ The most successful organizations co-create products and services with customers, and integrate customers into core processes
- ◆ Better performers manage complexity on behalf of their organizations, customers and partners¹

While public sector organizations must also become more customer-centric and innovative, they also must find ways to control their total cost of ownership (TCO) for information technology and demonstrate that they are obtaining the greatest possible value for their investments (commonly measured as return on investment – ROI).

Similarly, the technologies, methodologies, and tool sets used to develop and support automation, as well as the ways in which organizations use information technology, have evolved considerably with the emergence of web-based (“cloud”) services, the consumerization of information technology, and mobility. The

¹ Capitalizing on Complexity: Insights from the Global Chief Executive Officer Study, IBM Corporation, 2010

continued introduction and rapid evolution of information technology products and services will impact public sector organizations in a number of ways including:

- ◆ The need to respond to increased public expectations for access to information and services is forcing a shift in the allocation of information technology resources from internal uses to public-facing uses including the creation of new products and services
- ◆ The growing adoption of mobile computing as the solution of choice for remote access to internal applications and repositories of information and the desire of users to have the same “desktop environment” on a remote device as they have in the office will drive the creation of new policies, support models, and security models
- ◆ In the face of a highly diverse and evolving market of new information technology products and services and the demand for their use, organizations will be increasingly challenged to allocate limited IT resources

The Information Technology “Hype Cycle”

Despite the benefits related to the adoption of new information technology trends, early adopters often find that realizing the intended benefits can be elusive. Gartner, a noted information technology research firm, developed the “Hype Cycle” to provide organizations with a model to help them plan the most advantageous time for them to adopt new information technologies.

Depicted below in Figure 6, Information Technology “Hype Cycle,” Gartner identified five discreet phases for information technology innovations ranging from the “technology trigger” (that prompts the introduction of the innovation) and the “peak of inflated expectations” to the “plateau of productivity” recognizing that some innovations may appear promising but never make it to full adoption. The hype-cycle is a useful tool that enables organizations to make more informed decisions regarding their investments in information technology.

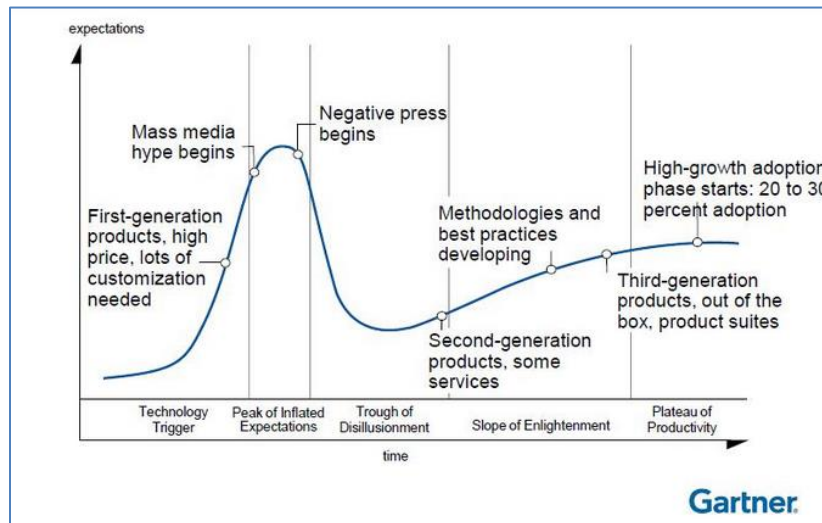


Figure 6 – Information Technology “Hype Cycle”

While predicting the future of information technology can be problematic, NexLevel has identified eight information technology trends that are mature (i.e., within or beyond Gartner’s “Slope of Enlightenment,”) and that are transforming how public sector organizations strategically govern the use of information technology, use information technology to promote productivity and effectiveness, and deliver information technology services. These include:

- ◆ Alignment of Business and Digital Strategies, the alignment of business and digital strategies is becoming increasingly critical as information and services are delivered to the public using electronic mediums (including web-sites, social media, and mobile apps) and these mediums also become the public’s preferred means of interacting with government.
- ◆ Enterprise Data Architecture and Business Intelligence coupled by necessity, since without a coherent structure for the integration and aggregation of information, organizations will be challenged to make effective use of the growing amount of data being accumulated, particularly as the “Internet of Things,” becomes a reality (the Internet of Things refers to an environment where “smart” devices proactively communicate using Internet technology). The business intelligence environment is continuing to evolve as software developers seek to make these tools easier to use.
- ◆ Enterprise Document and Content Management (EDCM), which is not a new trend; however organizations are reconsidering their approaches to EDCM particularly considering the well-established benefits related to the adoption of this technology.
- ◆ Organizational Change Management (OCM), which is continuing to evolve and receiving greater attention as organizations seek to overcome resistance to change and to better realize the anticipated benefits for their information technology expenditures.
- ◆ Strategic Sourcing / Cloud Services, while neither the concept of sourcing services or delivering services using the internet are new, the number, type, capabilities, and cost of web-based services is continuing to evolve as are the ways in which organizations utilize these services. The cloud is

rapidly gaining acceptance and, for example, some traditional software providers do not license their software, but rather provide access to the software on a subscription basis.

- ◆ Three closely-related areas including Digital Government Strategy, Mobility and the Consumerization of IT, and Cybersecurity, where both the services involved and the related organizational requirements are continuing to evolve. For example, the development of digital government strategies is becoming particularly critical as organizations find that they need to take a more holistic and open approach to interacting with the public especially given the rapid evolution of wireless devices (smart phones, tablets, etc.). Mobile computing is similarly impacting the expectations of internal users who need remote access to applications and information as well as the need to protect information assets from continually evolving cybersecurity threats.

Each of these trends is discussed below.

3.1 – Alignment of Business and Digital Strategies

Planning documents often speak to the need to align technology plans and directions with business or operational needs and priorities – generally this implies a two-step process in which operational plans are developed and then technology plans are crafted to support them. NexLevel believes that this process is not as effective as it could be since the transformative impact of technology should be considered in the course of developing business plans, not afterwards. Industry best practices and research confirm that organizations that integrate business and technology planning in a common framework achieve better results than those that do not.

IT Governance is used as the catalyst to ensure the alignment between an organization’s business goals and priorities and how it allocates its information technology resources and assets. In the absence of effective alignment of business and information technology direction, scarce resources can be allocated for IT projects that may be interesting but fail to deliver real benefits to the organization. In looking at any of the emerging trends below, the City of Fresno should consider them in terms of what adoption would mean for City operations.

3.2 – Enterprise Data Architecture and Business Intelligence

“Big Data”

As depicted in Figure 7, Business Intelligence and Business Analytics, organizations are using software tools to consume a growing body of information for either tactical / reactive purposes (business intelligence) or for strategic / proactive purposes (business analytics). The collection, aggregation, and analysis of information from disparate business units and sources across an enterprise is often referred to as “Big Data” by the information technology industry. Big Data provides the foundation for business intelligence and business analytics.

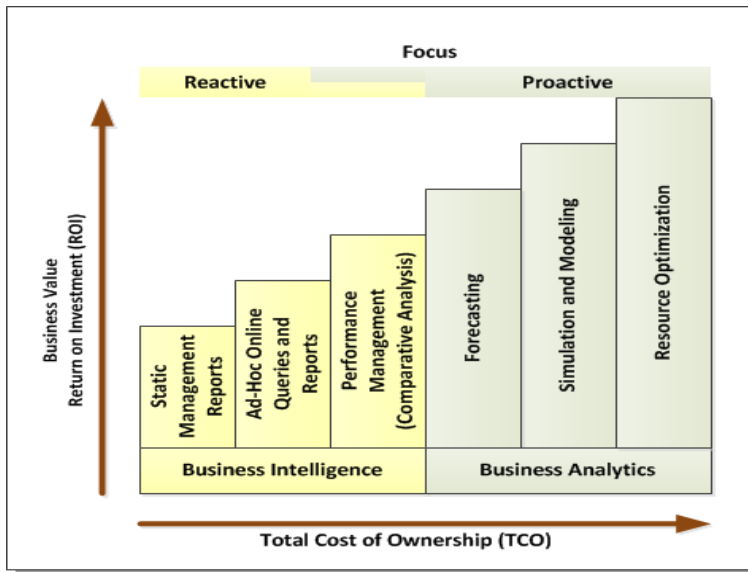


Figure 7 – Business Intelligence and Business Analytics

“Big Data” often includes:

- ◆ Data from traditional and enterprise business applications that includes current as well as historical information.
- ◆ Data from “smart”, i.e., web-enabled devices (what has been called the “Internet of Things” and which is discussed below).
- ◆ Data from external sources (typically for comparative purposes).

Despite the continual improvement of the tools available for business intelligence and business analytics; the collection of data

² Improving State Government Operations Through Business Analytics, NASCIO Research Brief, February, 2010

from highly heterogeneous sources can be difficult to achieve and expensive to maintain unless the organization has an enterprise data architecture that defines how the pieces fit together.

Enterprise Data Architecture

An enterprise data architecture provides the foundation for the consumption of information for strategic purposes, otherwise known as business analytics. The National Association of State Chief Information Officers (NASCIO) notes that “Analytics is the extensive use of data, statistical and quantitative analysis, explanatory and predictive models, and fact-based management to drive decisions and actions... This includes the manipulation, visualization, statistical analysis, trending, and correlation analysis that are applied to data.”²

The development and effective use of an enterprise information architecture to effectively manage organizations is dependent on:

- ◆ Processes and staff to support the architecture (including processes for its governance, support, and evolution) since both the data being collected and the organization’s use of the data will change over time.
- ◆ Standards and policies to ensure that business applications will be able to exchange information with other business applications and support the integration and compilation of information.

Organizations without an enterprise data architecture, supporting standards, and staff to support it, often attempt to support decision-makers through a cumbersome combination of ad-hoc applications, databases, and spreadsheets. These tools often use

data inconsistently, are seldom well documented or able to quickly meet new requirements, and eventually become a drain on organizational resources. This can quickly become a worst-case scenario as the total cost of ownership for these ad-hoc processes quickly mounts, while the return on the organization's investment decreases.

The "Internet of Things"

"The Internet of Things (IoT) is the network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment." – Gartner Research

For some time devices have stored data so that it could be manually downloaded and accessed on demand. Combining this capability with the ability to access the internet (and thus the ability to both autonomously receive and transmit information) has brought us to the IoT. McKinsey has suggested six distinct types of applications to consume this information; tracking behavior, enhanced situational analysis, sensor-driven decisions analytics, process optimization, optimized resource consumption, and complex autonomous systems (collision avoidance).³

The challenge for organizations that desire (or need) to make use of this proliferation of data is to find a coherent and structured approach that considers how this information needs to be consumed and the cost to maintain it. For example, some data might be more useful when summarized, while raw data might be needed to develop more detailed models. In this instance, an organization might elect to develop aggregates as well as store the

³ <http://www.mckinsey.com/industries/high-tech/our-insights/the-internet-of-things>

raw data. Although IT organizations often consider that "disk is cheap," data can accumulate quickly and become a logistical problem as the number of data-capable devices increases. Therefore organizations must be able to determine what data to keep, in what format, and for how long.

Business Intelligence

As shown in Figure 7, an organization's approach to how it collects and uses information to support business intelligence and business analytics can impact both its total cost of ownership and return on investment for information technology. The development of analytic capabilities generally involves greater investment but provides the potential for organizations to reap significant benefits by anticipating, rather than reacting to, demands for new services and increased demand for existing services.

3.3 – Enterprise Document and Content Management

Document Management is not a new trend; however, organizations are adopting enhanced enterprise document and content management (EDCM) strategies and capabilities to improve their abilities to:

- ◆ Better organize and catalog documents and digital content so that they are more readily available across the organization and to ensure that users have access to the most current versions (organizations that have multiple repositories for the storage and management of documents and content find that these are often implemented and used inconsistently and that they increase the organizations total cost of ownership)

- ◆ Improve the ability to collaborate with internal and external users (including the ability to annotate)
- ◆ Control access to documents (and to portions of documents) including permissions to add, read, copy, modify, and delete
- ◆ Conform to records management requirements
- ◆ Search documents and content in conformance with public records requests
- ◆ Support users working from remote locations

More recently, organizations have also realized that the absence of a document and content management framework limits the usefulness of field mobility, since this depends on the ready availability of content. Consuming bandwidth and time to search for documents is frustrating for end-users and increases organizational costs for mobility.

Gartner Research has noted that:

The term "enterprise content management" (ECM) describes both a strategic framework and a technical architecture that supports all types of content (and format) throughout the content life cycle.

As a strategic framework, ECM can help enterprises take control of their content. It can contribute to initiatives around transactional processes, compliance and records management as well as sharing and collaborating around content and documents.

As a technical architecture, ECM can be delivered either as a suite of products integrated at the content or interface level, or as a number of separate products that share a common architecture.⁴

Industry statistics regarding the costs related to the manual management of content (including the unstructured storage of documents and content in directories on network drives) are very compelling, and have been validated by successive independent studies. A guide published by Laserfiche (an ECM software provider) notes that "A recent PriceWaterhouseCoopers study reports that the average worker spends 40% of their time managing non-essential documents, while the International Data Corporation (IDC) estimates that employees spend 20% of their day looking for information in hardcopy documents and only finding what they need 50% of the time."⁵

Finally, an organization's ability to achieve a near-paperless environment is greatly dependent on the implementation of EDCM capabilities that are robust and user-friendly.

3.4 – Digital Government Strategy

The use of the web as a conduit for providing information to the public and to enable them to conduct business is not new, but the rapid multiplication of the number of channels for communicating with the public is new as is the continued evolution of mobile devices. As a result, organizations are being challenged to make information and services available to the public through:

- ◆ Web-based services including "traditional" organization-sponsored, web-sites

⁴ Gartner Research, Magic Quadrant for Enterprise Content Management, 2015

⁵ Document Management: The Buyer's Handbook, Laserfiche, <http://www.laserfiche.com>, 2015

- ◆ Various social media platforms such as Facebook, Twitter, and YouTube
- ◆ A variety of devices including desktop, portable, and mobile devices (as discussed in the section on the consumerization of IT). Organizations must be prepared to deal with “any device (including any browser), anywhere, anytime”

While the use of multiple channels for the delivery of information and/or services make it possible to reach a broader segment of the public, it also introduces the problem of keeping the messages and/or information current and consistent and appropriate to the channel employed and the devices used. For this reason, organizations seeking to make effective use of both private and shared channels for the delivery of information and services should have a digital strategy that identifies:

- ◆ The different communities that the organization wants to reach
- ◆ The information and services that these communities need
- ◆ The best means of delivering the information and services to them
- ◆ The role of the various units within the organization in supporting digital services
- ◆ Who in the organization will be responsible for providing oversight for the implementation of the digital strategy and for coordinating the delivery of information and services to the public

The Federal government has adopted a digital government strategy that is built on four principles which could be adapted for the use of other government agencies. The principles include:

- ◆ An “Information-Centric” approach – Moves us from managing “documents” to managing discrete pieces of open data and content which can be tagged, shared, secured, compiled and presented in the way that is most useful for the consumer of that information
- ◆ “Shared Platform” approach – Helps us work together, both within and across agencies, to reduce costs, streamline development, apply consistent standards, and ensure consistency in how we create and deliver information
- ◆ A “Customer-Centric” approach – Influences how we create, manage, and present data through websites, mobile applications, raw data sets, and other modes of delivery, and allows customers to shape, share and consume information, whenever and however they want it
- ◆ A platform of “Security and Privacy” – Safeguards that this innovation happens in a way that ensures the safe and secure delivery and use of digital services to protect information and privacy⁶

3.5 – Strategic Sourcing and Cloud Services

Strategic sourcing is based on the concept of obtaining and using the most effective service provider to respond to user needs, and enabling permanent IT staff members to focus on high-priority, high-value tasks and technologies while allocating non-mission critical “utility” functions that require less organization-specific knowledge to lower-cost service providers.

⁶ Digital Government: Building a 21st Century Platform to Better Serve the American People, US Office of Management and Budget, 2012

For many organizations in both the public and private sector, “cloud” based services including Infrastructure as a Service (IaaS), Desktop as a Service (DaaS), and Software as a Service (SaaS) offer an alternative to initial capital expenditures, the recruitment of additional staff members, or the use of staff-supplementation services (contractors). Organizations tend to keep mission-critical applications or applications that contain highly confidential information in-house, while sourcing utility functions to reduce costs and to achieve a higher degree of consistency in service delivery. Key benefits of sourcing include:

- ◆ The ability to obtain services under the terms of a service level agreement
- ◆ The ability to obtain service coverage for extended hours of operation including 24x7
- ◆ The ability to scale services to meet user demand

Nonetheless, organizations seeking to use external services (cloud-based or not) need to carefully consider:

- ◆ The cost of implementation
- ◆ The continuing costs for utilization
- ◆ The provisions for the availability and security of information that is stored off-site
- ◆ Data ownership
- ◆ The costs and effort related to potentially exiting the sourcing arrangement in the future

3.6 – Organizational Change Management

The introduction of new enterprise-wide business applications, and/or modifications to existing business applications, often involves changes to existing business processes and organizational structure; and these changes, as well as the effort required to implement the business application, have the potential to disrupt operations. Additionally, organizations have found that resistance to change can limit their ability to realize the intended benefits of business applications and prolong implementation projects, sometimes to the point that project success is placed in jeopardy.

Organizational change management (OCM) provides a methodological framework for managing the organizational impact of the implementation of new automation, including changes in business processes, organizational structure, and culture (including changes in focus and changes in how performance is measured), by focusing on improving communication, setting expectations, and working to minimize the impact of misinformation.

In 1995, John Kotter introduced an eight-step process for fostering the successful implementation of changes in organizational structure, business processes, and culture.⁷ Kotter’s framework for change management includes:

- ◆ Creating a shared sense of urgency regarding the need to change
- ◆ Forming a guiding coalition across the organization to support change
- ◆ Creating a vision for change

⁷ Leading Change, John Kotter, Harvard University Press, 1995, <http://www.kotterinternational.com>

- ◆ Communicating the vision
- ◆ Preparing to overcome obstacles
- ◆ Planning for, and delivering, short-term wins to sustain momentum
- ◆ Remaining committed to the long-term process required to transform organizations
- ◆ “Anchoring” the changes in the culture of the organization (the “new normal”)

Organizational change management is also dependent on performance management since it provides an objective and factual assessment as to whether the organization is obtaining the desired outcomes from changes to business processes, structure, and resourcing, and the effectiveness of any subsequent steps that may be needed to overcome obstacles.

3.7 – Mobility and the “Consumerization” of IT

“Customer-centric government means that agencies respond to customers’ needs and make it easy to find and share information and accomplish important tasks... The mantra of “anytime, anywhere, any device,” is increasingly setting the standard for how information and services are both delivered and received in a two-way exchange of information and ideas.” – Digital Government: Building a 21st Century Platform to Better Serve the American People, US Office of Management and Budget

The consumerization of information technology refers to the use of personal devices, most often mobile, to obtain access to organizational services and information (also sometimes referred to as BYOD – bring your own device). As a result, consumerization and

mobility are closely linked. Collectively, they represent a significant opportunity for government to become more customer-centric and to improve the effectiveness and timeliness of service to the public; however, they are also vexing for enterprise IT planners since:

- ◆ The proliferation of devices is a challenge for support organizations as users attempt to obtain connectivity to secured wireless networks and utilize applications. It is estimated that the introduction of mobility in an organization can increase Help Desk Workload by as much as 10%⁸.
- ◆ User access to enterprise information and services from mobile / wireless devices potentially exposes them to cyber-attacks.
- ◆ Public-facing solutions need to be both open and adaptive to optimize user experience from a universe of devices, (each with different screens, browsers, and operating systems) that is continually evolving.
- ◆ “Follow me” mobility fundamentally changes the paradigm of the standard desktop computing model where the computer, the operating system, the applications, plus the user’s data and preferences are integrated into a single platform (either a desktop PC that remains in the same location or a laptop or notepad that moves with the user and then connects to the host network). Whereas desktop computing is device and location centric, mobility is user centric.

Despite these challenges, mobility is a “game changer” in the public sector, enabling users to move as needed and to enter or update information on a real time basis, thus eliminating the need to

⁸ The Impact of Mobility on the IT Service Desk, Gartner, 2013

capture information on paper or offline and then enter or upload the information in the office. In addition, mobility enables access to information where/when it is most needed (i.e., in responding to incidents and emergencies).

Support for mobile devices continues to be a vexing issue for many organizations. Some adopt a “bring your own device” policy as being preferential to attempting to limit the devices that users employ; often with the caveat that IT support for other than officially supported devices will be provided only as available and with no guarantees as to response time. The practicality of these policies tends to be limited since the priority of a service request tends to be driven more by the nature of the incident or request and the person reporting it than by the device involved.

3.8 – Cybersecurity

While the need to secure information systems is not new, the increased focus and importance of cybersecurity is a direct result of the increased utilization of the web for the delivery of information and services and the related rise of the use of mobile and personal devices. The Associated Press reported that the President’s Homeland Security and Counterterrorism Advisor has warned that “we are in the middle of a revolution in the cyber threat – one that is growing more persistent, more diverse, more frequent, and more dangerous every day.”⁹

Cisco, a leading network component and firewall manufacturer and service provider, has noted that:

The shift toward mobility and cloud services is placing a greater security burden on endpoints and mobile devices

⁹ “Citing a ‘revolution,’ Obama issues response plan,” The San Francisco Chronicle, July 27, 2016

that in some cases may never even touch the corporate network. The fact is that mobile devices introduce security risk when they are used to access company resources; they easily connect with third-party cloud services and computers with security postures that are potentially unknown and outside of the enterprise’s control. In addition, mobile malware is growing rapidly, which further increases risk. Given the lack of even basic visibility, most IT security teams don’t have the capability to identify potential threats from these devices.¹⁰

In this environment, organizations can be crippled not just by attacks which result in the disclosure, modification, and destruction of information, but also by attacks which take over critical infrastructure components (and potentially disable them or hold them hostage through the installation of “ransomware”), or impede the ability of legitimate users to access information and services (“denial of service” attacks).

The nature of cybersecurity threats is continually evolving due to the growing sophistication of hackers, the resources available to them, and a transformation in the motivation for the attacks from mischief and activism to criminal profit. As a result, the community of hackers has expanded to include criminal enterprises that profit through extortion as well as through the theft of digital assets (such as social security numbers, account numbers, etc.).

There has been considerable attention given to cybersecurity in the public sector, including the development of a detailed cybersecurity framework by the National Institute of Standards and Technology (NIST) in conformance to US Executive Order 13636, Improving

¹⁰ Cisco, 2014 Annual Security Report, http://www.cisco.com/web/offer/gist_tv2_asset/Cisco_2014_ASR.pdf

Critical Infrastructure Cybersecurity, which was issued in February, 2013.¹¹ NIST has developed a comprehensive framework for cybersecurity planning that includes functions for the identification of threats, protection from them, as well as processes for threat detection, response, and recovery.¹² Figure 8, NIST Framework Functions, provides a summary of the functional areas and the categories within each functional area.

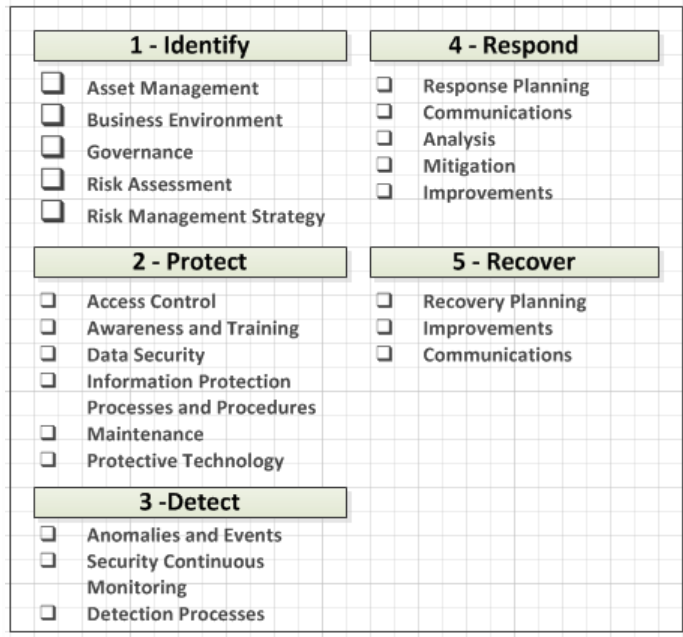


Figure 8 – NIST Framework Functions

¹¹ <http://www.nist.gov/cyberframework/index.cfm>

¹² Ibid

Section 4 – Strategic Technology Master Plan

4.1 – Plan Development

Strategic planning enables organizations to find a balance between immediate and long-term needs. It follows that the process for the development of a strategic plan needs to take the same considerations into account.

Change is a constant concern for public sector executives who must often respond to increased public expectations and new mandates with limited resources and information technology environments that are not agile. Without an Information Technology Strategic Plan to serve as a baseline to manage and respond to change, organizations tend to become reactive rather than proactive and, as a result, obtain reduced benefits for their investments in information technology.

Figure 9, Strategic Technology Master Plan Development, depicts the process used to develop the City’s Strategic Technology Master Plan. Strategic projects were identified based on operational needs and priorities identified in the course of the interviews with the City’s user stakeholders, IT needs and priorities, and the recommendations that NexLevel identified for the City. The resulting project list was then reviewed with the City’s management team and refined, considering both the user and IT resources that would be required to implement the projects and information regarding information technology trends. The refined project list then served as the foundation for the planning and prioritization workshop.

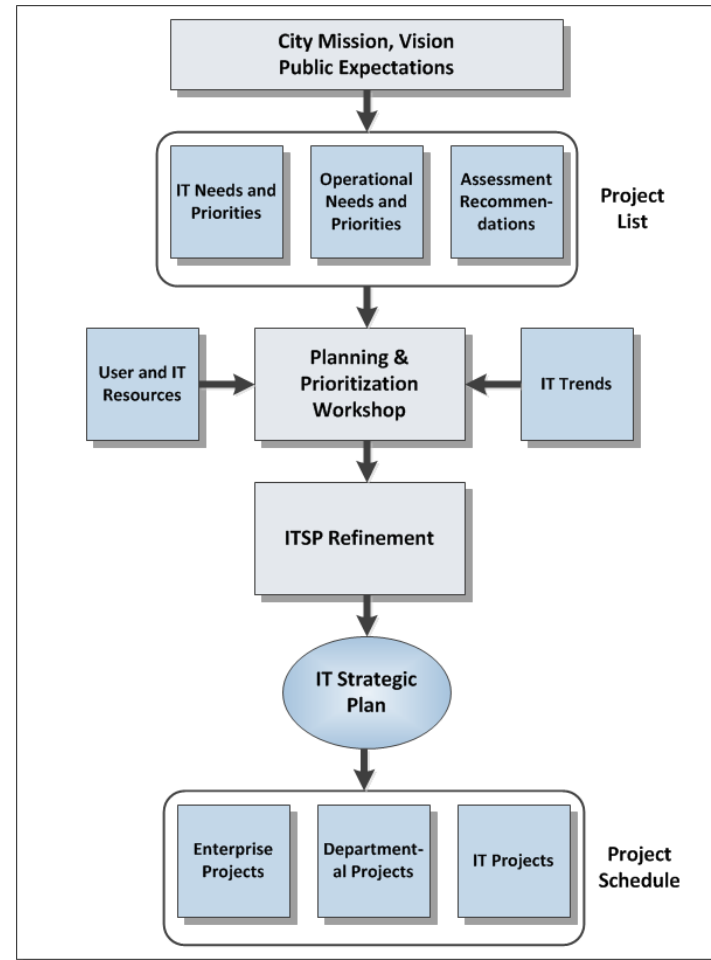


Figure 9 – Strategic Technology Master Plan Development

4.2 – Project Portfolio

The Project Portfolio was developed through interviews with members of the City Council, the City’s Mayor and executive team, department heads, key stakeholders in the City’s user community, the City’s CIO, and ISD managers and staff members. The completed Project Portfolio is provided as Appendix A, and provides information for each of the projects that were identified including:

- ◆ The status of the project (in-progress or new), please note that projects that were added in the course of the Project Prioritization Workshop have been given a status of “New – Added.”
- ◆ The project name.
- ◆ The project’s sponsor(s).
- ◆ An indication of whether the project is an enterprise project.
- ◆ Descriptive information including the project’s scope, objectives / benefits, and drivers.
- ◆ An assessment of the relative levels of effort and risk associated with the project as well as its potential business value to the City (low, medium, high).

NexLevel also prepared a Project Prioritization Worksheet (provided as Appendix B), that contained additional information for each of the projects including:

- ◆ The name of the project and the project’s sponsor(s).
- ◆ An indication of whether the project is an enterprise project.

- ◆ An assessment of the relative level of effort required to implement the project, considering the impact on both ISD and user staff resources.
- ◆ An assessment of the level of risk (either functional or technical) that might be experienced in the implementation of the project.
- ◆ The estimated low and high costs (in \$000’s) for each project based on information developed by NexLevel
- ◆ The estimated impact on City operations for each project looking at four key factors including:
 - Community Engagement - the degree to which the project contributes to improving the ability of the City to provide public access to information and services.
 - Business Enhancement - the degree to which the project contributes to improving the City’s ability to conduct operations by enabling the elimination of redundant and/or non-value added activities or improving productivity, etc.
 - Cost Reduction - the degree to which the project contributes to reducing the City’s total cost of ownership for information technology or otherwise reducing costs.
 - Technology Replacement - the degree to which the project can enable the City to replace existing components of its information technology infrastructure (including applications, hardware, system software, etc.).

The Project Portfolio and the Project Prioritization Worksheet were distributed to the participants in the Planning and Prioritization Workshop that is discussed below.

4.3 – Plan Development and Refinement

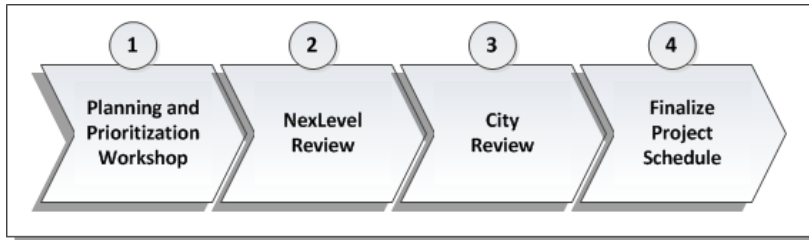


Figure 10 – Steps in Plan Development and Refinement

Figure 10, Steps in Plan Development and Refinement, depicts the process that was used to develop the Strategic Technology Master Plan. Each of the steps in the process are discussed below.

Step 1 - Planning and Prioritization Workshop

The planning and prioritization workshop was conducted on October 3, 2016, in an open and collaborative manner with members of the City’s management team, department heads, and key stakeholders. The workshop was conducted using a sheet of adhesive blue fabric as a backdrop (the “Blue Wall”). Pages were printed out for each of the proposed strategic IT projects, and the project pages were pre-staged on the Blue Wall over the current fiscal year (FY2016/17) and succeeding fiscal years through FY 2020/21.

The participants reviewed each of the proposed strategic projects, added, removed, and consolidated projects as needed, and revised the preliminary timeline. Figure 11, “Blue Wall” at Conclusion of Workshop, depicts the results of the Planning and Prioritization Workshop.

Step 2 – NexLevel Review

Figure 12, “Blue Wall” Projects Following Initial Review, depicts the results of the second step in the refinement process. NexLevel mapped the projects from the “Blue Wall” into an electronic format using Visio so that the City can modify the plan as needed and further spread some of the projects over time to accommodate resource and funding constraints. Projects that are related (i.e., such as projects related to the review and potential renovation or replacement of the City’s PeopleSoft ERP system, the implementation of the Land Management System, and the development and implementation of the City’s document management strategy) have been grouped together and denoted by yellow highlighting.

The projects in Figure 12 are broken out by Fiscal Year (FY) and within FY by first half (left hand column) and second half (right hand column), except for FY 2016/17 which is broken out into projects that are in progress and projects that are planned. The arrows in the chart denote projects that continue into future Fiscal Years.

Based on information provided by the City, NexLevel developed the Preliminary Project Schedule depicted in Figure 13, which includes estimated costs (where known at this time). Estimated low and high costs were developed for each project, and the estimated cost for the projects was derived based on the average of estimated low and high costs.

Figure 13 is divided into several sections including In-Progress Projects and Planned Projects. The In-Progress Projects are listed in alphabetical order by project name and the Planned Projects are separated out into enterprise projects and other projects.

Please note that:

- ◆ Costs are not provided for projects that are currently budgeted (in progress).
- ◆ For planning purposes, all of the costs for a project are taken at the outset of the project irrespective of its duration, since the actual accrual of costs will be dependent on the project deliverables and the schedule.
- ◆ In some instances, budgetary estimates for projects were not available and these are noted as “TBD.”

Figure 13 also provides:

- ◆ The number of concurrent projects scheduled in each of the Fiscal Years for the plan.
- ◆ The total, estimated, mid-range cost (the average of the low and high costs) per each fiscal year, and the total, estimated, mid-range costs for all of the projects. Please note that the cost for some projects could not be estimated at this time and these are noted as “TBD.”

Step 3 – City Review

The draft of the Strategic Technology Master Plan was provided to the City for its review. The City provided input regarding changes to the Strategic Technology Master Plan and the Preliminary Project Schedule and these were then updated by NexLevel.

Step 4 – Finalize Project Schedule

The completed Strategic Technology Master Plan was then delivered to the City to serve as the baseline for the City’s updated IT governance process.



Figure 10 – “Blue Wall” at Conclusion of Workshop

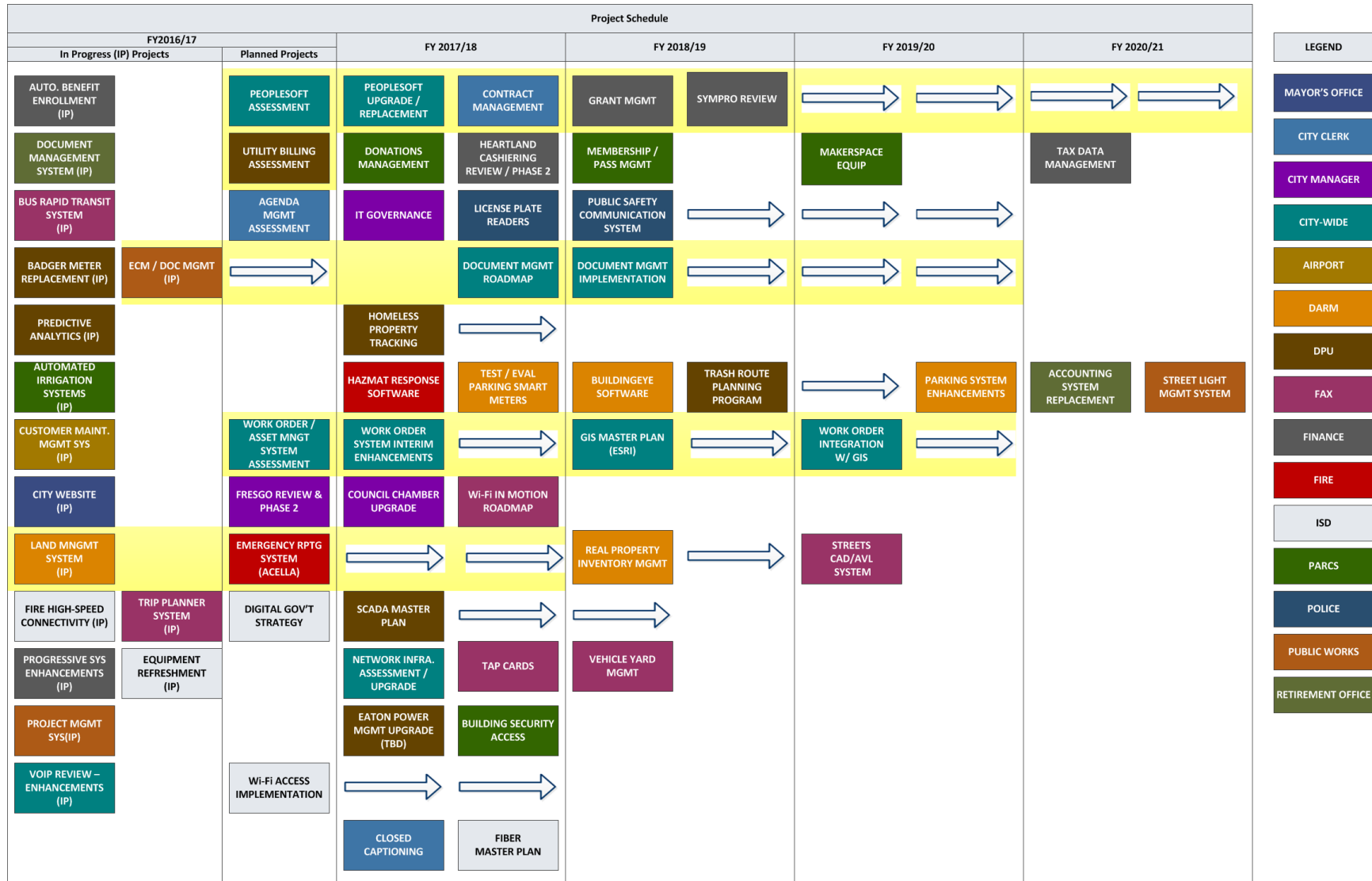


Figure 11 – “Blue Wall” Projects Following Initial Review

Project Name	Sponsor	Enterprise Project	Estimated Costs (in \$000's)			Planned Project Duration By FY					Notes	
			Low	High	Mid-Range	2016-17	2017-18	2018-19	2019-20	2020-21		
IN-PROGRESS PROJECTS												
Automated Benefit Enrollment	Finance - HR/Payroll		n/a	n/a	n/a	■ ■ ■ ■						
Automated Irrigation Systems	PARCS - Maintenance		n/a	n/a	n/a	■ ■ ■ ■						
Badger Meter (Read Center) Replacement Comp.	DPU - UB		n/a	n/a	n/a	■ ■ ■ ■						
Bus Rapid Transit System	FAX	Y	n/a	n/a	n/a	■ ■ ■ ■						
City Website	Mayor's Office / PIO	Y	n/a	n/a	n/a	■ ■ ■ ■						
Customer Maintenance Management System	Airport		n/a	n/a	n/a	■ ■ ■ ■						Est'd completion in Nov. 2016
Equipment Refreshment	ISD		n/a	n/a	n/a	■ ■ ■ ■						
Document Management System	Retirement Office		n/a	n/a	n/a	■ ■ ■ ■						
ECM / Document Management	Public Works		n/a	n/a	n/a	■ ■ ■ ■	■ ■ ■ ■					
Fire High-Speed Connectivity	Fire		n/a	n/a	n/a	■ ■ ■ ■						
Land Management System	DARM		n/a	n/a	n/a	■ ■ ■ ■	■ ■ ■ ■					
Predictive Analytics Software	DPU - Water Systems		n/a	n/a	n/a	■ ■ ■ ■						
Progressive System Enhancements	Finance - Business Tax		n/a	n/a	n/a	■ ■ ■ ■						
Project Management System	PW - Capital Projects / Eng		n/a	n/a	n/a	■ ■ ■ ■						
Trip Planner System	FAX		n/a	n/a	n/a	■ ■ ■ ■						
VOIP PIER - Features Enhancements	City-wide		n/a	n/a	n/a	■ ■ ■ ■						
PLANNED PROJECTS												
IT Governance	City Manager	Y	\$ -	\$ -	\$ -		■ ■ ■ ■					
Fiber Master Plan	ISD	Y	\$ -	\$ -	\$ -		■ ■ ■ ■					
Network Infrastructure Assessment / Upgrade	City-wide	Y	\$ -	\$ -	\$ -		■ ■ ■ ■					
PeopleSoft												
PeopleSoft Assessment	City-wide	Y	\$ 50	\$ 75	\$ 63	■ ■ ■ ■						
Utility Billing Assessment	DPU - UB and Collection	Y	\$ -	\$ -	\$ -	■ ■ ■ ■						
PeopleSoft Upgrade / Replacement	City-wide		\$ 9,000	\$ 12,000	\$ 10,500		■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■		
Contract Management	City Clerk/City Attorney		\$ -	\$ -	\$ -							
Grant Management	Finance		\$ -	\$ -	\$ -							
SymPro Review	Finance - Treasury		\$ -	\$ -	\$ -							
City-wide Document Management												
Document Management System Roadmap	City-wide	Y	\$ -	\$ 25	\$ 13		■ ■ ■ ■					
Document Management System Implementation	City-wide	Y	\$ 50	\$ 75	\$ 63			■ ■ ■ ■				
Web and Public Engagement												
Digital Government Strategy	ISD	Y	\$ -	\$ 25	\$ 13	■ ■ ■ ■						
FresGO PIER and Phase 2	City Manager	Y	\$ 35	\$ 50	\$ 43	■ ■ ■ ■						
Wi-Fi Access Implementation Project	ISD	Y	\$ 25	\$ 50	\$ 38	■ ■ ■ ■						
GIS, Work Order & Asset Management												
Work Order Asset Mngmt System Assessment	City-wide	Y	\$ 35	\$ 50	\$ 43	■ ■ ■ ■						
Work Order System Interim Enhancements	DPU - Water Systems	Y	\$ 25	\$ 35	\$ 30		■ ■ ■ ■	■ ■ ■ ■				
GIS Master Plan (ESRI)	City-wide	Y	\$ 25	\$ 35	\$ 30		■ ■ ■ ■					
Work Order System Integration with GIS	City-wide	Y	\$ 24	\$ 149	\$ 87				■ ■ ■ ■			Incl Data Migration

Figure 12 – Preliminary Project Schedule (Continued on next page)

Project Name	Sponsor	Enterprise Project	Estimated Costs (in \$000's)			Planned Project Duration By FY					Notes
			Low	High	Mid-Range	2016-17	2017-18	2018-19	2019-20	2020-21	
Other STMP Projects											
Accounting System Replacement	Retirement Office		\$ 75	\$ 100	\$ 88				■■■■		
Agenda Management Assessment	City Clerk		\$ -	\$ -	\$ -	■■■■					
Building Security Access	PARCS		\$ -	\$ -	\$ -		■■■■				TBD
Buildingeye Software	DARM		\$ 50	\$ 100	\$ 75		■■■■				
Bus/Transit Vehicles	FAX		\$ -	\$ -	\$ -		■■■■				TBD
CAD/AVL System Purchase	FAXDPU		\$ 2,000	\$ 4,500	\$ 3,250				■■■■		
Closed Captioning	City Clerk		\$ 5	\$ 7	\$ 6		■■■■				
Council Chamber Upgrades	City Manager		\$ 130	\$ 170	\$ 150		■■■■				
Donations Management	PARCS		\$ -	\$ 50	\$ 25		■■■■				
Eaton Power Mgmt. Upgrade	DPU		\$ 500	\$ 750	\$ 625		■■■■				
Emergency Reporting System	Fire		\$ -	\$ -	\$ -	■■■■					May be accomplished with Acella
Hazmat Response Software Technology	Fire		\$ 35	\$ 75	\$ 55		■■■■				
Heartland Cashiering PIER / Phase 2	Finance		\$ -	\$ -	\$ -		■■■■				Project Reevaluated / Reassessed
Homeless Property Tracking	DPU		\$ -	\$ -	\$ -		■■■■				OBE -- In House No Cost
License Plate Readers	Police		\$ 15	\$ 25	\$ 20		■■■■				
Makerspace Equipment	PARCS		\$ -	\$ -	\$ -				■■■■		TBD
Membership/Pass Management	PARCS		\$ 5	\$ 10	\$ 8			■■■■			
Parking System Enhancements	DARM - Parking		\$ 35	\$ 50	\$ 43				■■■■		
Public Safety Comm. System Replacement	PoliceFire		\$ 22,725	\$ 27,930	\$ 25,328			■■■■	■■■■		
Real Property Inventory Management	DARM - Downtown		\$ 3,237	\$ 4,030	\$ 3,634			■■■■			Incl Real Property & Acella Land Mgt
SCADA Master Plan	DPU		\$ 50	\$ 150	\$ 100		■■■■				
Street Light Management	PW - Engineering		\$ -	\$ -	\$ -					■■■■	TBD -- Analysis In Progress
Tap Cards	FAX		\$ -	\$ -	\$ -		■■■■				OBE -- Already Purchased
Tax Data Management	Finance - Debt		\$ 50	\$ 65	\$ 58					■■■■	
Test / Evaluate Parking Smart Meters	DARM - Parking		\$ -	\$ -	\$ -		■■■■				N/A
Trash Route Planning Program	DPU - Solid Waste		\$ 350	\$ 500	\$ 425			■■■■			
Vehicle Yard Management	FAX		\$ -	\$ -	\$ -						TBD
CONCURRENT PROJECTS SCHEDULED PER FISCAL YEAR:						26	24	8	8	4	
ESTIMATED COST PER FISCAL YEAR (\$000's)											
ESTIMATED MID-RANGE COST FOR ALL PROJECTS:						<u>\$ 44,806</u>					
ESTIMATED MID-RANGE COST PER FISCAL YEAR:											
FY 2016/17:						\$ 198					
FY 2017/18:						\$ 11,629					
FY 2018/19:						\$ 29,456					
FY 2019/20:						\$ 3,379					
FY 2020/21:						<u>\$ 145</u>					
TOTAL:						<u>\$ 44,806</u>					

Figure 12 – Preliminary Project Schedule (Continued from prior page)

Section 5 – Conclusion

In closing, NexLevel would like to emphasize three thoughts that have emerged in the course of developing the Strategic Technology Master Plan for the City of Fresno: 1) leadership for organizational change, 2) IT governance, and 3) the need to establish a strong infrastructure as the foundation to enable the City to more fully realize benefits for its investments in information technology.

Leadership

“We know that leadership is very much related to change. As the pace of change accelerates, there is naturally a greater need for effective leadership.” – John Kotter, Expert on Organizational Change Management

The City’s Strategic Technology Master Plan is like a roadmap in that it charts the route for the City to get from where it is today (“the current state”) to where it needs to be (“the target state”); however, there are other similarities as well. Just like any trip, the destination may change as may the stops along the way, and as anyone who has travelled with family knows, there are often those who ask questions:

- ◆ “Do we really have to go?”
- ◆ “Are we there yet?”
- ◆ “Are you sure this is the right way?”

These questions are all too familiar to organizations that are working to transform their IT environments (including the ways in which they strategically govern information technology, manage the delivery of information technology services, and deliver them) to a target state, and underscore the critical role that IT governance,

combined with a focused approach to organizational change management and well-defined and measurable objectives, plays in organizational transformation.

Effective leadership, as noted by John Kotter, is vital to coping with change such as the implementation of new processes for IT governance. The City’s management team must be committed to maintaining and communicating the City’s vision for information technology, adapting the vision as circumstances (such as mandates, resources, or other events) require changes in priorities, and considering alternative approaches to enable the City to attain its objectives. Communicating the vision is vital, since information technology initiatives often fail to provide the intended benefits when they are limited by what has been referred to as “tunnel vision oriented towards [the] narrow goals of individual functions or departments, rather than the goals of the process as a whole.”¹³

IT Governance

“IT governance is the responsibility of executives and the board of directors, and consists of the leadership, organizational structures and processes that ensure that the enterprise’s IT sustains and extends the organization’s strategies and objectives” - IT Governance Institute (ITGI) – <http://www.itgi.org>

It was noted earlier in this document that organizational use of information technology has undergone a significant transformation in recent years due to the ubiquity of the Internet, mobility, and increased public expectations for access to information and services. Although this transformation necessitates changes in how organizations govern information technology and manage and deliver information technology services, not all organizations have

¹³ James R. Martin, Ph.D., CMA, Professor Emeritus, University of South Florida

made these changes. Those that have not often find that they are spending more on information technology, receiving fewer benefits for their investments, and are less able to use information technology to effectively respond to new and/or changed requirements.

Broadly, information technology governance is the link between the planning process and the ability of a city to realize tangible improvements in its ability to use information technology strategically, and to effectively manage the delivery of information technology services to the City’s internal user community, contract communities, and the public.

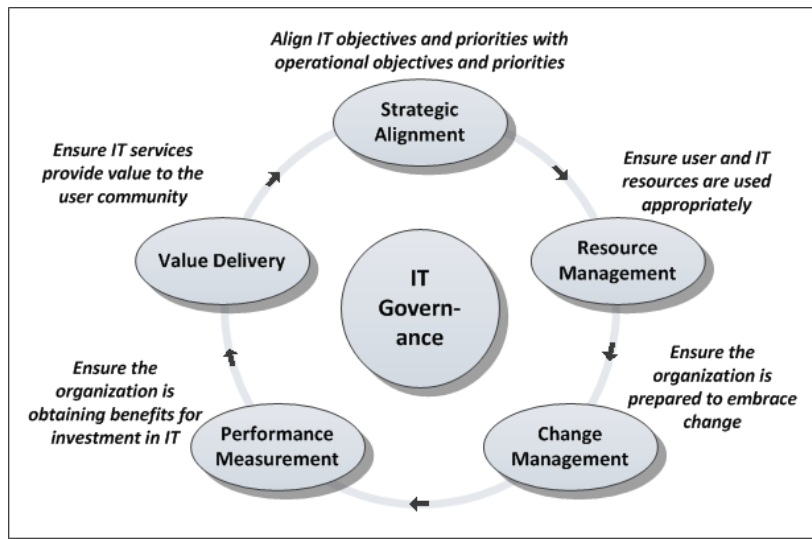


Figure 14 – Dynamics of IT Governance

As depicted in Figure 14, Dynamics of IT Governance, the key focuses of information technology governance include:

- ◆ **Strategic Alignment:** Aligning the City’s information technology strategy, priorities, and resources with its

organizational needs and priorities to focus the City’s information technology assets on the highest priority needs.

- ◆ **Resource Management:** Ensuring that the City has sufficient IT and user resources to support its priorities, and that the resources are used appropriately.
- ◆ **Change Management:** Promoting the adoption of new business processes and the use of information technology through organizational change management, particularly, through sponsorship of change and communicating the organization’s vision for the use of information technology. Change management is also related to risk management, since user resistance to change is a major factor in the failure of IT projects.
- ◆ **Performance Management:** Ensuring that the City’s investment in information technology results in tangible improvements in the City’s ability to deliver services to the public (return on investment).
- ◆ **Value Delivery:** Ensuring that IT services provided by the City add value, i.e., are rendered in a timely manner, meet user expectations for quality, etc.

The net result of IT governance is organizational agility, i.e., the ability to quickly stand-up or adapt solutions to support new and/or changed business requirements by:

- ◆ Re-using or re-allocating existing information technology assets (data, applications, infrastructure, and personnel).
- ◆ Taking advantage of information technology trends including for example the delivery of enterprise business applications and infrastructure as a service.
- ◆ Acquiring and implementing new IT assets.

- ◆ Some combination of the above.

One of the recommendations resulting from the IT Assessment was that “The City should implement a formal structure for IT Governance,” and without revisiting the information accompanying the recommendation, NexLevel would like to stress the importance of the establishment of a continuing process for IT governance to the City. Without IT governance, IT strategic plans quickly become obsolete and organizations soon find that the benefits related to the IT planning process (including an increased consciousness of the importance of communication, collaboration, and process and information sharing) diminish in the face of day-to-day challenges and turnover.

NexLevel has also discussed the differences between organizations that are essentially reactive in their approach to governing information technology and organizations that are more proactive. In short, organizations that are more proactive in their approach to governing IT are able to better realize benefits for their investments in information technology (measured as return on investment – ROI), and these benefits frequently translate into greater ability to deliver services to the City as well as increased agility to respond to changes.

Critics often complain that information technology governance stifles organizational agility; however, the reality is that the converse is true - it enables organizational agility by allowing organizations to allocate their technology resources to the most critical projects and to keep technology objectives aligned with business objectives and priorities. NexLevel has noted that IT governance does not have to be bureaucratic, onerous, and time-consuming; in fact, lean approaches often work best. Many of NexLevel’s clients have found that adding IT governance as an

additional agenda item to an existing executive staff meeting often works best.

In the end, the implementation and continued use of IT governance represents a change in organizational culture, behavior, and priorities. As has been seen in the past, changes of this type are highly dependent on executive sponsorship, communication of the vision to the City, a willingness to overcome obstacles, and achieving early wins.

IT Foundations

This thought relates to the nature of information technology and the establishment of the foundation for the effective use of business application systems. Figure 15, Information Technology Expenditures and Return on Investment, depicts the relationships between the components of an organization’s information technology environment, the organization’s cumulative total cost of ownership (TCO) for information technology, and the return on investment (ROI) for those expenditures.

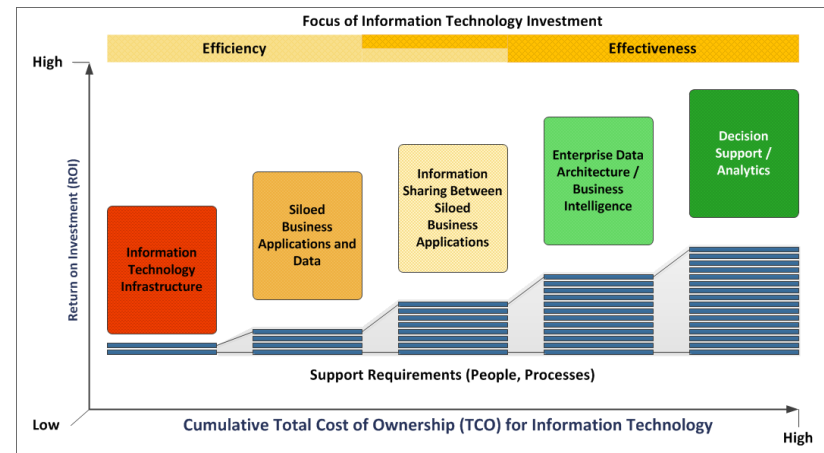


Figure 15 – Information Technology Expenditures and Return on Investment

The implementation of any end user business application (and the ability for an organization to realize its benefits) is dependent on the successful implementation and support of all of the supporting components of the information technology infrastructure, including the shared infrastructure (including servers and storage devices), user infrastructure such as desktop PCs, and enabling technologies.

Weaknesses in any of these supporting components can significantly impede the effectiveness of a business application by reducing availability, performance, and reliability. Faced with an application that is slow or not available when needed due to infrastructure issues, users often resort to the use of ad-hoc databases and spreadsheets. These “shadow IT” applications defeat the basic reasons for implementing an integrated business suite in the first place and further reduce the organization’s ROI, while introducing significant security and data consistency issues. It is thus important for the City to look at its overall technology environment at a high level and ensure that the foundation for all applications remains solid.

The Strategic Technology Master Plan 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. Hopefully it provides a common understanding of the City’s technology priorities and serves as a tool to provide an overall picture of what is to be accomplished and why.

While the creation of the Strategic Technology Master Plan 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 STMP. ISD 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.

Support of the Plan will need to come in terms of priorities, dollars, policies and practices. Successful implementation may mean making compromises, and it will mean exercising patience, taking an organization-wide perspective, and maintaining a continued focus on revising the plan as events take place. Finally, it will take cooperation, communication and flexibility to adapt to changing needs, technologies and resources.

Appendices

Appendix A: Project List

Appendix B: Project Prioritization Worksheet

Appendix A: Project List

The STMP Project List was prepared by NexLevel based on the information gathered in the course of the interviews conducted with each department during the IT Assessment. The project list was then reviewed with ISD and distributed for review prior to the IT Project Prioritization Workshop on October 3, 2016. In the course of the workshop, the participants made some changes, i.e., projects were added, updated or modified, consolidated, and removed. These changes are annotated below. For each project, the list provides:

- ◆ The status of the project
- ◆ The project name
- ◆ The project’s sponsor(s)
- ◆ An indication of whether the project is an enterprise project
- ◆ Descriptive information including the project’s scope, objectives / benefits, and drivers
- ◆ An assessment of the relative levels of effort and risk associated with the project as well as its potential business value to the City (low, medium, high)

City of Fresno STMP Project List - Updated August 2019					Attributes		
Status	Project Name	Project Sponsor(s)	Enterprise Project	Project Description	Level of Effort	Risk	Business Value
In Progress	10X Upgrade (Order Processing)	ISD		<p>Description: Upgrade our internal order processing system for internal ordering for City Departments.</p> <p>Objectives/Benefits: Increase efficiencies for internal orders, order tracking, budget approval, order approval, etc.</p> <p>Drivers: Current system is out of date and needs to be upgraded.</p>	Med	Med	Med
Completed	311	ISD		<p>Description: Implement 311 service for the City.</p> <p>Objectives/Benefits: The City already has a single number for it's constituents to call (One Call Center). This project will formalize our One Call Center into a 311 service offering.</p>	Med	Med	High

				<p>Drivers: Provide a better service to our constituents and solidify our call center.</p>			
New	Accounting System Replacement	Retirement Office		<p>Description: The City Retirement Office is currently using QuickBooks to manage the financial affairs of the City's two fully funded Retirement Systems. The retirement accounting transactions must be managed in a separate solution from the City financial software. This project is to identify a standalone replacement software program that provides a more robust accrual-based accounting system.</p> <p>Objectives/Benefits: The implementation of a new accounting system will provide improved functionality to support all accounting functions for City Retirement Office activities. In addition, enhanced reporting capabilities and automated functionality will provide more rapid access to data.</p> <p>Drivers: The current solution does not meet the Retirement Office needs. The office is looking to increase its efficiencies, have access to better overall reporting, and be able to access data more easily for the CAFR Retirement document.</p>	Med	Med	Med
In Progress	Agenda Management Assessment	City Clerk		<p>Description: This project would provide for a review of the City's use of Granicus for managing the City Council agenda including the submission, tracking, and approval of agenda items and the creation and distribution of the agenda packet (mainly distributed electronically, but some hard-copy versions of the packet are printed and distributed). Some Council Members and staff have expressed concern with the City's process for managing and distributing the agenda.</p>	Med	Med	High

				<p>Objectives/Benefits: Enable the City to make better use of the Granicus application and improve the ability to manage and distribute the agenda.</p> <p>Drivers: Resolve problems with present implementation of Granicus, improve staff efficiency and productivity</p>			
In Progress	Airport Customer Maintenance Management System	Airport		<p>Description: The Fresno Yosemite International Airport (FYI) Facility and Maintenance group does not currently use an electronic system to manage its service work orders and is looking to automate this functionality The FYI is aware that the City has several City Customer Maintenance Management System (CMMS) systems and is interested in leveraging one of those current systems. They are most interested in the system used by PARCS Facilities Maintenance and Fire called Corrigo. Corrigo is working successfully within these two departments and adding the Airport would further leverage the current hosted solution.</p> <p>Objectives/Benefits: The implementation of an electronic maintenance and work order system will automate the manual processes currently in place.</p> <p>Drivers: To increase efficiencies as provided via an automated system.</p>	Med	Med	Med
Completed	Automated Benefit Enrollment	Finance - HR/Payroll		<p>Description: ISD is working with the HR and Payroll divisions to assist in the automation of Benefit Enrollments. The process is manual for both the employee and staff, and it is very susceptible to data-entry errors that have resulted in financial impacts that required correction/adjustment.</p> <p>Objectives/Benefits: To eliminate the inconsistent setups across bargaining units and eliminate manual errors through automation. An automated process</p>	Med	High	Med

				<p>would help administer the pension, health and welfare, 13 vacation plans, etc.</p> <p>Drivers: To eliminate manual errors and provide a more timely process of benefit enrollment events through automation.</p>			
In Progress	Automated Irrigation Systems	PARCS - Maintenance		<p>Description: The City PARCS staff manually controls the majority of the water irrigation systems throughout the City. This is resource intensive and requires manual intervention to make major or minor timing, flow, and rain adjustments. This project is to continue upgrading all the irrigation systems so City staff is able to control the systems through automated phone applications and centralized systems remotely.</p> <p>Objectives/Benefits: Continue automated control of City water irrigation systems to support state water conservation efforts. Increases staff efficiency through remote management of water systems.</p> <p>Drivers: Eliminates water waste and saves staff time with automated control functionality where possible.</p>	High	Med	High
In Progress	Badger Meter (Read Center) Replacement Completion	DPU - UB		<p>Description: When DPU went to implement the Automated Meter System (AMS) Read Center from Badger Meter, the product was unable to handle the volume of business that Fresno generated. The Read Center software is now "unsupportable" and the City is moving to a Beacon AMS solution. This project is to complete the transition to the new system and work through current outstanding issues with the Beacon and IonWater products to the City's satisfaction.</p> <p>Objectives/Benefits: To clearly identify and address the remaining outstanding issues to the City's satisfaction in order to meet department and public needs.</p>	Med	Med	Med

				<p>Drivers: To replace an unsupportable system and to address remaining project issues.</p>			
In Progress	BroadBand/Small Cells	ISD	Y	<p>Description: Continue tow work with our partners to ensure that the City is primed for and receives small cell/5G technologies.</p> <p>Objectives/Benefits: This will ensure that our citizens have the latest technology in an effort to ensure that the City keeps up with technological advances from a cellular and telecommunications perspective. By this we will also attempt to close the digital divide and work towards providing cost effective and affordable service for our citizens.Ensure that the public can access agendas and find City services fairly easily.</p> <p>Drivers: Ensure that our citizens have access to latest telecommunications technology.</p>	High	Med	High
In Progress	BRT Cameras	FAX		<p>Description: Install cameras at each BRT location.</p> <p>Objectives/Benefits: Ensure public safety as well as being able to monitor the bus stations for security, maintenance and upkeep.</p> <p>Drivers: Public safety.</p>	Med	Med	Med
On Hold	Budget Financial Management (Phase 2)	Finance - Budget		<p>Description: The Budget Office is in the first year of using the new Budget Financial Management (BFM) system as a replacement to the end-of-life Brass system. This project is to take the next steps with the BFM system to include additional features and functionality to be scoped by staff and costed by the vendor.</p> <p>Objectives/Benefits: Complete a scope of work to</p>	High	Low	High

			<p>identify enhancements to the BFM system. Potential additional functionality may include electronic forms and workflow approvals, document attachments, versioning, etc. to further automate the budget preparation process.</p> <p>Drivers: Enhanced user tools and management capabilities to support the annual budgeting process.</p>			
In Progress	Building Security Access	PARCS	<p>Description: This project is to implement a common/standard centralized system for access to the City PARCS facilities. Numerous facility keys are managed manually and an automated building access system for the PARCS facilities would be more efficient. Features of a building security system would include the ability for staff to grant access to specific facilities via secure card access at specific times and to track and report on access events.</p> <p>Objectives/Benefits: PARCS would benefit from a uniform method that supports City staff access to facilities via card entry or other electronic entry methods. This automation would eliminate management of a large number of keys and provide access management to what buildings, for what individuals, by roles and security settings.</p> <p>Benefits: Provide a safe, secure building access system and eliminate the need for keys.</p> <p>NOTE: PARCS may be able to utilize the existing system being used for City Hall to address their needs.</p>	High	High	Med

New	Buildingeye Software	DARM		<p>Description: The City has a need to share disparate data to its public and constituents for planning activities, permitting, capital projects and more. The Buildingeye software presents City data from simple and easy to use interactive map(s) from within a city's website. The system pushes updates to the City public web site automatically on regularly scheduled times from different City business applications. This project would follow the Land Management implementation as a sub-project.</p> <p>Objectives/Benefits: Buildingeye saves time by providing customer self-serve and subscription in order to receive notice of permit activity in their neighborhood or other events. It provides dissemination of data to the public that is easily accessible and intuitive to understand.</p> <p>Drivers: The interface will help eliminate calls to City staff and provide easier access to building and planning information by mapping what's happening in the City.</p>	Med	Med	Med
Completed	Bus Rapid Transit System	FAX	Y	<p>Description: Bus Rapid Transit System (BRT) We anticipate that the proposed High Speed Rail (HSR) station will increase the demand for bus service to and from the station. Therefore, efficient links to other modes of transportation, including BRT, will be critical. We envision the proposed BRT stop at Van Ness and Mariposa to play a significant role in providing easy and efficient access to the proposed HSR station, which will be located just a few blocks away at H and Mariposa Streets. BRT will reduce both waiting and travel times for FAX customers on the two busiest transit corridors in the city and BRT will provides service improvements to its customers without compromising service levels in other parts of the FAX</p>	Med	Med	High

				<p>system.</p> <p>Objectives/Benefits: BRT has proven to add value to adjacent properties and businesses in the other cities in the U.S. where implemented, which would be a welcome contribution to businesses and property owners along the Blackstone and Ventura/Kings Canyon corridors.</p> <p>Drivers: The ultimate success of a comprehensive, intermodal transit system relies significantly on its ability to allow passengers to seamlessly transfer from one mode of transportation to another.</p>			
New	Bus/Transit Vehicles	FAX		<p>Description: Conduct research and planning for "Wi-Fi in Motion" on the City transit vehicles to provide mobile connectivity for transit riders and commuters. This would be a sub-project of the larger City Wi-Fi project.</p> <p>Objectives/Benefits: Provide Wi-Fi connectivity to what was historically regarded as a time when you couldn't do much more than read the paper. Adding Internet access to transportation is the next step in civic services and is already being requested by the public</p> <p>Drivers: Encourage ridership and meet the demand of riders.</p>	Med	Med	Med

New	CAD/AVL System Purchase	FAX/DPU	<p>Description: The CAD/AVL system was purchased in 1997; current we are a yearly maintenance plan and receive periodic software upgrade and product support. In recent research we discovered that there are a number of systems in the market place that exceeds our existing system in providing ridership information to our riding public. We also want to enhance the back office reporting tools to provide management the information to make strategic routing modifications. There are two other factors driving the procurement process and they are the continuing operating cost and the vendor’s resistance to interface with other software application that would improve the deployment of ridership information to our riding public.Objectives/Benefits: To improve the timeliness of our existing Transit System. Also provide needed information to our riding public in regard to real time vehicle location. The goal is to minimize the passenger wait time at stops.Drivers: Improve the riding experience of our existing customers and generate a viable travel option for the City’s choice riders.</p>	Med	Med	Med
Completed	City Clerk Document Portal	City Clerk	<p>Description: The City Clerk's Office has a need to provide online documentation for public records. This project creates a public facing portal for those purposes. Objectives/Benefits: Provide a public facing portal for public documents that are managed by the Clerk's Office. This will allow ease of access for the public for these documents. Drivers: There isn't a current online portal and the Clerk's Office is not only looking for efficiencies, but also public service.</p>	Med	Med	Med

Completed	City Hall Security Phase I	City Manager	Y	<p>Description: City Hall was recently assessed for security of the building. There were several improvements recommended for better security in City Hall. This assessment's finding and these improvements are confidential.</p> <p>Objectives/Benefits: Provide a safer environment for employees at City Hall including elected officials.</p> <p>Drivers: Confidential.</p>	Med	High	Med
In Progress	City Hall Security Phase II	City Manager		<p>Description: City Hall was recently assessed for security of the building. There were several improvements recommended for better security in City Hall. This assessment's finding and these improvements are confidential.</p> <p>Objectives/Benefits: Provide a safer environment for employees at City Hall including elected officials.</p> <p>Drivers: Confidential.</p>	Med	Med	Med
Completed	City Website	Mayor's Office / PIO		<p>Description: The City is underway with development of new website. Departments would like to have more input and control of the department pages.</p> <p>Objectives/Benefits: Enhance the look of the City site and provide an intuitive and user friendly place for visitors to find relevant information, reduce the number of clicks required to access information, direct access to social media, complete City business online, and interact with City departments 24 x 7 via e-commerce.</p> <p>Drivers: An enhanced public experience, adherence to ADA requirements, and more internal department content management.</p>	High	Med	Med
Completed	Closed Captioning	City Clerk		<p>Description: This provide provides for adding closed captioning to the videos of City Council Meetings.</p> <p>Objectives/Benefits: Enable members of the Public to better view City Council Meetings.</p> <p>Drivers: Improve public access and transparency.</p>	Med	Med	High

Completed	Communications App	ISD		<p>Description: Combine all telecommunications billing information for the City from all sources into one database for processing.</p> <p>Objectives/Benefits: Ability to process bills internally and be able to evaluate charges from a single source.</p> <p>Drivers: Provide efficiencies for internal customers.</p>	Med	Med	Med
In Progress	Computer Equipment (Desktop) Replacement Plan	ISD	Y	<p>Description: As part of the IT Assessment, ISD will re-establish the computer desktop and peripheral equipment replacement planning effort for department technology equipment. This includes both City staff hardware and public accessible computers (senior labs, science center, skate park, youth access, etc.) to ensure computer equipment is regularly refreshed.</p> <p>Objectives/Benefits: Complete a City wide inventory of ISD-supported computer desktop hardware and equipment, and put a plan in place to regularly fund replacements.</p> <p>Drivers: To help ensure a reduction in down time due to old equipment and improve user productivity with more efficiently operating machines.</p>	High	Med	High
New	Contract Management	City Clerk/Attorney		<p>Description: Current contract management and oversight is primarily in paper form within departments. (Final and signed contracts/agreements are stored with the Clerk's Office.) This project is to establish the electronic system(s) and procedures necessary to manage and track City contracts, the expiration of contracts, certificates of insurance, etc. This project may become a sub-project for ECM and ERP decisions made at the City.</p> <p>Objectives/Benefits: Provide consistent oversight of City contracts and insurance certificates.</p> <p>Drivers: Prevents expiration of contracts on</p>	Med	Med	Med

				agreements, insurance certificates, and other potential liabilities.			
In Progress	Council Chamber Upgrades	City Manager		<p>Description: This project will provide for the refreshment / upgrade of the computer and A/V equipment in the Council Chamber.</p> <p>Objectives/Benefits: Replace or upgrade equipment to facilitate the ability of the City Council to conduct meetings and improve ability of the City to provide information regarding Council Meetings to the Public.</p> <p>Drivers: Improve the ability of the infrastructure in the Council Chambers to meet requirements.</p>	Med	Med	High
New	Digital Government Strategy	ISD		<p>Description: This project is to assess and define the processes to implement the City's future digital and e-government strategy.</p> <p>Objectives/Benefits: To provide a plan and strategy to standardize the approach to public facing technology services.</p> <p>Drivers: As more departments are moving to new portal and web based public facing processes, the City will want to manage and provide oversight to ensure delivery standards.</p>	Med	Med	Med
Completed	Digital Signage	ISD		<p>Description: Install digital signs in the lobby and outside the front of City Hall. There is a need to post agendas and other information (Brown Act) outside of City Hall for public view. There is also a need for an updated sign inside of City Hall's lobby that will not only provide a directory, but will include wayfinding as well.</p> <p>Objectives/Benefits: Ensure that the public can</p>	Med	Med	High

				access agendas and find City services fairly easily. Drivers: Brown Act and public service.			
New	Document Management System - Retirement	Retirement Office		Description: Implement a document management system for the City Retirement Office. As part of the scope, determine if the Retirement Office can be part of larger City enterprise document management project prior to procuring a separate and disparate system. Objectives/Benefits: Eliminate years of paper storage and establish a future electronic process for management of retirement documents. The office is currently researching a product called Cabinet that provides content management, business process automation, and workflow optimization solutions. Drivers: Address document storage issues and provide electronic content management. NOTE: The needs of the Retirement Office may be able to be met with the Citywide Document Management solution project underway.	Med	Low	Med
In Progress	Document Management System Implementation (City-wide)	City-wide	Y	Description: This project would support the City-wide implementation of Laserfiche (likely in phases) per the recommendations of the Document Management Roadmap. Objectives/Benefits: Please see Document Management Roadmap. Drivers: Please see Document Management Roadmap.	Med	Med	Med

In Progress	Document Management System Roadmap	City-wide	Y	<p>Description: This project would provide a roadmap for the City-wide implementation of Laserfiche including the development of a City-wide document inventory, opportunities to improve current City business processes through the use of workflow for inter and intra departmental document exchanges, and integration with business applications including PeopleSoft, etc.</p> <p>Objectives/Benefits: Enable the City to better realize the return on its investments in document management, improve City processes, and promote greater efficiencies.</p> <p>Drivers: Enable the City to handle documents most efficiently.</p>	Med	Low	Med
New	Donations Management	PARCS		<p>Description: The PARCS divisions manually track and manage all departmental donations received in MS-Excel. The PARCS group would like to automate the ability to collect and report on the donations received from corporations, constituents, and visitors.</p> <p>Objectives/Benefits: Research if the current RecTrac business application supporting the department can meet the need to assist with donations or identify a commercial-off-the-shelf (COTS) product to track donations and consolidate all received dollars and in-kind donations. (i.e. Help the Parks, Friends of the Parks, Science Center, Senior Center, etc.). Any system should have the ability to interface with the financial system.</p> <p>Drivers: Provide improved ability to accept and track donations and provide enhanced reporting capabilities.</p>	Med	Low	Med

On Hold	DPU App	DPU	<p>Description: Create a mobile app allowing information access for Public Utilities information and services.</p> <p>Objectives/Benefits: Online/mobile access to City information for water, garbage and other services. Constituents can look up watering schedules, trash pickup schedules, garbage and recycling information amongst others!</p> <p>Drivers: Provide access to City information for better customer service experience for our constituents as well as environmental information for a cleaner environment.</p>	Med	Med	High
New	Eaton Power Mgmt. Upgrade	DPU	<p>Description: The Eaton Power Management System provides uninterruptible power supplies (UPSs), surge protection, power distribution units (PDUs), remote monitoring and the ability to schedule safe shutdowns and prevent data loss in the event of a prolonged power outage. This project is to upgrade the system to the latest hardware/software that provides additional functionality and will receive alerts to initiate a systematic, soft systems shutdown.</p> <p>Objectives/Benefits: The goal is to upgrade the current software to the latest release version and take advantage of the new and latest release features and functionality.</p> <p>Drivers: Enhanced tools to better manage and prevent loss of systems.</p> <p>UPDATE: Schedule TBD.</p>	High	Med	Med

<p>In Progress</p>	<p>Electronic Content/Document Management System - Phase 4</p>	<p>Public Works</p>		<p>Description: The Public Works department is working with Laserfiche for the next phase of their document management needs. Objectives/Benefits: G. As Laserfiche is integrated into operations, changes are frequently required in Work Flow, Quick Fields, and Template modifications. While ISD Staff have been engaged with the ECS/consultant during Laserfiche deployment/configuration and are capable of making some changes to the database interface; however, Workflow, Quick Fields, and Template modifications. Drivers: Standardize the electronic storage of City documents, reduce and eliminate paper storage requirements and provide ease of access to documents to the departments and the public.</p>	<p>Med</p>	<p>Med</p>	<p>Med</p>
<p>Completed</p>	<p>Electronic Content/Document Management System - Phases 1 thru 3</p>	<p>Public Works</p>		<p>Description: The Public Works department is working with Laserfiche in the design stage (beta project) and setting up initial templates for the first of eight divisions with approved funding in place. This project is to address the need for a larger citywide enterprise Electronic Content/Document Management System. The project should include a clear scope of work to address all department permanent records/document requirements. In addition, prior to a citywide rollout being initiated, the City will need to address and update its retention schedule and identify, by department, the records/documents that should be included in the future enterprise system. Objectives/Benefits: The City Clerk and departments will need to have a planned, phased approach to move forward. The Clerk's Office should be the next department to implement and then assist with the continued rollout to all departments. Ultimately, a public portal should be available for remote access to</p>	<p>Med</p>	<p>Med</p>	<p>Med</p>

				<p>City records. The DARM Department custom Building and Safety Document Management program should be consolidated with the new enterprise system. Additionally, department scanners should be purchased to ensure the success of the movement from paper to electronic processes. The City should also look to leverage the linkage of any scanned/imaged documents for access with City applications and GIS.</p> <p>Drivers: Standardize the electronic storage of City documents, reduce and eliminate paper storage requirements and provide ease of access to documents to the departments and the public.</p>			
New	Emergency Reporting System Interfaces	Fire		<p>Description: The Fire Investigation Division is currently using the Emergency Reporting Software System to manage its daily operations. (Used for work orders, and tracks department permitting.) There currently is no interface between other Fire department systems (Tiburon) and or City systems (SunGard) and interfaces are needed for future enhanced processing.</p> <p>Objectives / Benefits: Complete electronic interfaces of data to other systems so data can be reported on easily. Include the purchase of division desktop scanners to support their work. They currently scan everything now from the copy room but this is not efficient. They have to manually navigate to images and attach to Emergency Reporting system.</p> <p>Drivers: Consolidation of data and streamline work efforts.</p> <p>UPDATE: Fire will assess the ability of Acella to meet this need.</p>	Med	Med	Med

In Progress	EOC/COOP	City Manager	Y	<p>Description: The City's Continuity of Operations Plan (COOP) is in need of updating. This will be a city-wide effort of which ISD will play an essential role. This project will encompass completing and updating continuity of operations plans for each department as well as standing up a new emergency operations center (EOC).</p> <p>Objectives/Benefits: Provide a complete and effective plan for the City following FEMA guidelines so that the City is prepared for emergency operations and/or a disaster.</p> <p>Drivers: The City's current plan is outdated and needs revision.</p>	Med	High	High
In Progress	ERP (PeopleSoft) Assessment	Finance/HR /ISD	Y	<p>Description: Complete a PeopleSoft Assessment resulting in a Business Case Report that will provide the City with its options and alternatives for the future. This effort would entail a formal review and analysis of the current PeopleSoft ERP footprint. The assessment would review all departments and functional areas supported and/or where the PeopleSoft system is interfaced to other business applications. The Business Case will detail the options available to the City. (i.e. to stay with PeopleSoft and upgrade, engage maintenance and support services, or to complete a full procurement for a replacement ERP system.)</p> <p>Objectives/Benefits: To gather the details and data necessary to make an informed and educated decision as to the direction it should take for its future ERP solution. The Business Case Report will provide an analysis of whether the system is meeting the City's current and future needs, as well as to provide recommendations to improve and/or streamline business processes through technology. The report</p>	Med	Med	Med

				<p>should document the City’s current environment, validate the total cost to support and maintain the current and or future system, identify business process improvements and opportunities to align with best practices, and define high-level system requirements to meet the City’s current and future needs. It should provide City decision makers with the information and knowledge to plan next steps that fully align the City’s business and operational needs with the best fit technology solution.</p> <p>Drivers: Determine the best ERP direction for the future that best meets the City's needs.</p>			
In Progress	ERP (PeopleSoft) Upgrade / Replacement	Finance/HR /ISD	Y	<p>Description: Upgrade/replace the City's ERP system (currently PeopleSoft).</p> <p>Objectives/Benefits: The City's version of PeopleSoft is outdated and can no longer be upgraded due to being supported by a 3rd party. The City needs to either upgrade the system and/or replace the system to bring it back into support allowing upgrades/updates. This project will depend upon the outcome of the ERP (PeopleSoft) Assessment.</p> <p>Drivers: <u>The inability to upgrade the City's ERP system to take advantage of new features and enhanced security.</u></p>	High	Med	Med
In Progress	e-Signature	City Clerk		<p>Description: The City Clerk's Office is seeking an automated system for obtaining digital signatures as part of the City's contract approval process. The current process requires routing of physical documents which can be time consuming and problematic.</p> <p>Objectives/Benefits: Provide an automated approach for obtaining internal and external signatures thereby</p>	Med	Med	Med

				<p>reducing the amount of time it takes to produce a signed document. This will also cut down on postage and overnight shipping fees.</p> <p>Drivers: There isn't a current automated process for this and the Clerk's Office is looking to modernize, be more efficient as well as cut costs.</p>			
Completed	FAX Mobile App (myFAXBus)	FAX		<p>Description: Implement bus location mobile software showing bus locations, routes and other information.</p> <p>Objectives/Benefits: This will provide a service to our constituents and ridership of the City of Fresno busses. It will show bus locations, amenities as well as routes so that our ridership can properly plan and know where the bus is located.</p> <p>Drivers: Provide a better customer service experience for our bus ridership and constituents.</p>	Med	Med	High
New	Fiber Master Plan	ISD	Y	<p>Description: The City needs to develop a master plan for the installation of Fiber city-wide to improve City-communications and to extend broadband Internet access across the City to encourage and support economic development, education, and improve public access to City services and information. The Master Plan includes the development of a solicitation to the private sector to identify opportunities for a public / private partnership.</p> <p>Objectives/Benefits: Please see above.</p> <p>Drivers: Economic development, improved internet access.</p>	Med	Med	Med

Completed	Finance Laserfiche Integration	Finance		<p>Description: Finance has a need to automate the process of processing accounts payable payments. This project will allow AP documents to be submitted to Finance electronically for approval/rejection. Objectives/Benefits: Provide automation to allow departments to submit AP paperwork electronically instead of hand delivering stacks of paper. Electronically scanning the documents will also allow them to be audited through keyword search capability vs. physically finding and searching the documents. Drivers: Current processes require departments to deliver AP paperwork to Finance for processing. Additionally, auditing those payments requires manually looking for information which is time consuming.</p>	Med	Med	Med
New	FresGO PIER and Phase 2	City Manager	Y	<p>Description: Complete a Post Implementation Evaluation Review (PIER) of FresGO (PublicStuff) and identify any outstanding issues and identify the next steps to enhance and leverage the use of the application to better serve the City staff and the public.</p> <p>Objectives / Benefits: To reach out to and include department input for the next steps and that that data is being reported as need for departments to complete the requested actions. The Council would benefit from additional information on a regular basis by the districts, by date range, etc.</p> <p>Drivers: Continue to leverage and enhance the FresGO features and meet additional needs for the department's and for the public.</p>	Med	Med	Med

Completed	Fulton Mobile App	City Manager		<p>Description: Create a mobile app showcasing the Fulton District.</p> <p>Objectives/Benefits: There is a grant requirement for providing an application showcasing the Fulton District as it has been transformef from a mall back to streets. This application will no only showcase the District, it will provide 3D technology and lidar data to show the artwork as well as a historical aspect of the District.</p> <p>Drivers: Fulfil a grant requirement and provide a service to our City.</p>	Med	Med	High
New	GIS Master Plan (ESRI)	City-wide	Y	<p>Description: This project will entail a comprehensive review of the City's current use of Geographic Information Systems (GIS) within the City departments and to create a GIS Master Plan. Through the process, the City should identify areas where consolidation of systems may be of overall benefit to the City. The review will result in a series of recommendations and project phases to enhance the sharing of City data layers where possible, ease administration of the systems, address future mobile access needs, and identify deployment of potential layers to the general public in the future.</p> <p>Objectives/Benefits: GIS applications are a powerful tool for researching information by geographic location and for accessing critical geographic-based information on a timely basis. The GIS Master Plan will provide a roadmap to improve the utilization of GIS technology as a core tool for all City departments. Remote access to GIS using a mobile devices significantly increases efficiency for field crews. In addition, future access to digital GPS cameras will provide for capture of GPS and image data in the field.</p> <p>Drivers: Increased efficiencies through data consolidation and ease of access via GIS.</p>	Med	Med	Med

In Progress	Governance	City Manager	Y	<p>Description: Establish a formal structure and process for the acquisition of and management of City technology. IT Governance should include formal processes for requests for technology, decision/prioritization processes, ongoing oversight of technology implementations, and technology standards and policies.</p> <p>Objectives/Benefits: Provides the organization with established processes for the acquisition and implementation of technology. Improves communication about technology projects, provides for organization-wide input into technology decisions, and establishes the process for prioritization of technology needs. Includes development of formal policies relating to technology (e.g. social media, mobility, purchases, etc.).</p> <p>Drivers: Staff in several departments indicated they are not aware of the status of IT related projects throughout the year, are not regularly informed of major technology initiatives underway, and/or do not feel that their issues are being addressed. A properly executed IT Governance structure will address these and other concerns.</p>	High	Med	High
New	Grant Management	Finance	Y	<p>Description: The City annually receives between \$70 and \$100 million dollars in grant funding that is managed at the department level. Each department currently oversees and provides the necessary reporting manually through multiple methods and there is no centralized list of citywide grant data. This project is to assess the need for and identify a Grants Management System. The initial steps are to look at the current ERP GL/module offerings to determine if the current ERP is a viable option. If not, the City would need to look at alternative systems.</p>	High	Med	High

				<p>Objectives/Benefits: The departments would benefit from a streamlined and consistent method to provide annual reporting for grant expenditures and revenue for the CAFR. Each department must also report to the Grantee. A consolidated system would streamline and provide access to grant data outside the department level.</p> <p>Drivers: Consistency in Grant Management and easier consolidation of citywide grant data.</p>			
New	Hazmat Response Software Technology	Fire		<p>Description: Hazmat software provides life saving information on the correct approach to chemical, combustible and highly toxic materials. The software needs to connect to the network that provides a wide range of information on hazardous substances, including material identification support, physical characteristics, human health information, and containment and suppression advice. The current system is not meeting the Fire Department's needs.</p> <p>Objective/Benefits: To identify the best hazmat software and ensure the latest data is available on how to deal with hazardous materials upon release, reactions to other materials, and how weather conditions will impact the release and how to contain. Replacing the current system will ensure the correct steps are followed to protect the response team, as well as the community.</p> <p>Drivers: Improved hazmat handling and increased public safety.</p>	Med	Low	Med

New	Heartland Cashiering PIER / Phase 2	Finance		<p>Description: The City recently implemented the Heartland Cashiering system and the project should go through a Post Implementation Evaluation and Review (PIER) to identify any outstanding issues and determine next steps.</p> <p>Objectives/Benefits: A PIER will identify any issues and look at additional functions that could be implemented. Several locations such as the BMX Bike Course and or Skate Park would benefit from a remote cashiering option. It could also address requests for additional training, recurring payments, and future text payments.</p> <p>Drivers: Full solution utilization.</p>	Med	Med	Med
In Progress	High Speed Connectivity	ISD		<p>Description: To address external location (PARCS, Fire, DPW, etc.) hardwire connectivity issues that impact staff ability to efficiently conduct business. Address issues in viewing job related videos and eliminate lengthy screen refresh times at the remote sites; possibly take advantage of street fiber where possible.</p> <p>Objectives/Benefits: Update and enhance the City's network infrastructure and connectivity environment to address department needs, prevent staff from circumventing the firewalls to get enough bandwidth, and to provide consistent user performance.</p> <p>Drivers: To improve network connectivity access, in both stability and speed, for remote City locations.</p>	Med	Med	Med

New	Homeless Property Tracking	City Manager	<p>Description: When in the field, DPU Solid Waste staff use tablets to capture pictures of homeless personal property and then provide a manual/written receipt. The property is then transported to a City waste facility where it is stored and managed. A more efficient way to track the personal property (physical items collected), associated photographs, owner's information, and the ultimate storage location of inventoried items until retrieved is required.</p> <p>Objectives/Benefits: The City is required to provide personal property storage for the City homeless population. The process to manage this is manual and staff and the homeless population would benefit from electronic automation. The City should evaluate existing systems to see if any of them can be leveraged to assist with the tracking, storing, and retrieval of homeless personal property.</p> <p>Drivers: The objective is to provide storage for homeless personal property in an efficient and organized manner.</p>	Med	Med	Med
Completed	Inspector App	DARM	<p>Description: The DARM department had a need to be able to have inspections in the field. They requested the construction of a mobile application for this purpose.</p> <p>Objectives/Benefits: Efficient and effective inspections in the field including the ability to take pictures, record information, issue documents and take payments. This experience not only helps with the efficiencies of the inspection program, it also allows for a more efficient and effective constituent experience.</p> <p>Drivers: Improve operations and customer service offerings for our constituents.</p>	Med	Med	High

In Progress	IT Strategic Plan Update (External Review)	ISD	Y	<p>Description: Keep the City's Strategic Plan up-to-date.</p> <p>Objectives/Benefits: An organized and strategic approach to technology for the City.</p> <p>Drivers: Ensure the City's technology is run as efficiently as possible.</p>	Med	High	Med
On Hold	Key Valet System	FAX		<p>Description: Key Valet technology is a comprehensive automated motor pool solution that manages all aspects of running a motor pool. The selected system will need to integrate with the City's Fleet Focus system. The addition of this type of system expands existing capabilities by allowing for a fully unmanned motor pool operation.</p> <p>Objectives/Benefits: The technology captures real-time odometer readings wirelessly, and automatically, as the driver both departs from and returns to the motor pool lot (integrated into Fleet Focus). This provides a single fleet maintenance database, thus ensuring greater accuracy and efficiency for maintenance activities and accurate billing. The system will also assist in the automated dispatch of relief vehicles for FAX drivers replacing the manual key exchange process.</p> <p>Drivers: Enhanced efficiency and better tracking for the use of relief vehicles.</p>	Med	Low	Med
Completed	Land Management System	DARM		<p>Description: Continue the Land Management System (LMS) implementation. During implementation of the new suite of modules, the City should confirm that all potential permits are included and that the functionality identified through the procurement is implemented. Future functionality is to include electronic plan review, Building Eye, and the replacement of the four-part paper encroachment permit process. These will be sub-projects to the initial implementation.</p>	Med	Med	High

				<p>Objectives/Benefits: The new LMS will replace the SunGard Public Sector Building and Permitting, Planning and Zoning, Land Management, Code Enforcement and Miscellaneous Receivables system (HTE) that the City implemented in 1996. The new system will provide new/enhanced interfaces for Code Enforcement, Housing, PeopleSoft, and others.</p> <p>Drivers: Includes streamlining business processes, replacement of outdated software, and improvement of services to the community.</p>			
Completed	Legislative Enhancements	City Clerk		<p>Description: The City Clerk staff currently use Granicus and Legistar to support several of the City's legislative processes. The City ISD internally manages the voting and video components of the meeting and the Clerk manually completes the minute's process. This project would look at streamlining these processes within the Granicus suite of products and simplify the post meeting processes.</p> <p>Objectives/Benefits: Research the possibility of leveraging the following Granicus modules; Minutes Maker, Voting System, Legislative Items Tracking, and the Boards and Commissions Management in order to make use of a single interfaced solution. A consolidated system will provide increased efficiencies in the legislative processes.</p> <p>Drivers: Provides a single solution that would provide efficiency and legislative management of Council Meeting, Committee, and Commission activities.</p>	Low	Low	Med

New	License Plate Readers	Police		<p>Description: License plate recognition technology is used in law enforcement and has been compared to the radio relative to its impact on policing efforts. This project is to identify and procure the necessary software and hardware for automated license-plate readers for the Fresno Police Department. Readers scan every license plate and alert officers of any potential criminal issue related to the car or its owner.</p> <p>Objectives/Benefits: To implement an effective tool for law enforcement for combatting violent crime, narcotics trafficking, auto theft, identity theft, and more.</p> <p>Drivers: Enhanced policing technology and crime fighting tools.</p>	Med	Med	High
In Progress	m365 Implementation	ISD	Y	<p>Description: Microsoft will be requiring the move to Office/Microsoft 365 by 2020. ISD will need to implement systems that will support this move.</p> <p>Objectives/Benefits: Stay up-to-date with Microsoft requirements.</p> <p>Drivers: Ensure the ability to run current software as well as ensure security of systems with new technology.</p>	High	High	Med
New	Makerspace Equipment	PARCS		<p>Description: The Center and Youth Program desires to enhance the learning environment by adding a Makerspace. Makerspaces are collaborative learning environments where people come together to share materials and learn new skills, including 3D printing, robotics, and crafting materials in a designated workshop area that encourages tinkering and creating. This project would include purchasing 3D printer hardware and other supporting interactive technology.</p> <p>Objectives/Benefits: The Community Science Center serves the public through educational workshops,</p>	Med	Med	Med

				<p>activities, camps, and with special events for children and adults. This project includes the purchase of an interactive hologram system (recreation) for the Youth Program that is similar to the Nintendo Wii. It would provide the latest technology to stay connected to the City teen population and help keep kids off the streets.</p> <p>Drivers: Encourages collaborative learning and supports the environment with advanced technology.</p>			
New	Membership/Pass Management	PARCS		<p>Description: Implement the Membership/Pass Management module of RecTrac at identified facilities, parks, computer labs, exercise rooms, centers, and for use at remote events. This module is offered by the current RecTrac suite of products as used by the department and would leverage a current City vendor.</p> <p>Objectives/Benefits: To provide an automated system to manage/track memberships and passes supported by the PARCS department. The system will electronically manage member information, electronically oversee dues and renewals, offer event registration, allow staff to communicate easily through tools, and capture statistical data. The system will additionally generate pass cards and support loyalty rewards programs.</p> <p>Drivers: To automate the tracking of membership and pass data.</p>	High	High	High
In Progress	Microsoft M365 Upgrade	ISD	Y	<p>Description: Upgrade the City's Office Productivity Suite to M365.</p> <p>Objectives/Benefits: Stay up-to-date with Microsoft Offerings and improve business functions/productivity..</p> <p>Drivers: Improve staff productivity, improve service to the community.</p>	FALSE	Med	Med

In Progress	Network Infrastructure Upgrade	City-wide	Y	<p>Description: Key to the department's successful use of technology is the signal strength, bandwidth, and speed of the City's network infrastructure. Numerous remote sites have issues related to bandwidth that cause workstations to exhibit slow speeds, buffering and lost connectivity. This project is to complete an initial assessment of connectivity issues and then develop a phased plan to remediate network performance problems.</p> <p>Objectives/Benefits: To ensure that the backend infrastructure is in place relating to firewalls, routers, hubs, cabling, software, etc. to support day-to-day business needs. As departments have a heavier reliance on audio, video, and multimedia access, ISD will need to continually monitor, maintain, upgrade, and address the requirements at City Hall and City remote facilities to ensure network performance standards.</p> <p>Drivers: To provide required network infrastructure so the City is in front of both the departments and the public's needs.</p>	Med	Med	Med
On Hold	PARCS Mobile App	PARCS		<p>Description: Create a mobile app allowing online access to Parks and their amenities.</p> <p>Objectives/Benefits: Online/mobile access to the City's Park infrastructure showing shelters, picnic areas, events and other amenities. Allow for mobile reservations, etc.</p> <p>Drivers: Provide access to amenities and a better customer service experience for our constituents.</p>	Med	Med	High

Withdrawn	Park Equipment Inventory Management Integrated With GIS	PARCS		<p>Description: The PARCS department is in need of an asset/inventory tracking system for equipment located at the various City parks. Currently, all park playground equipment, sports equipment, etc. is maintained manually. The department is interested in maintaining an electronic record of all equipment (with possible use of RFID tags) that would correspond with an associated GIS layer. The department is open to leveraging a current system if available and if it meets the department's need to track non-capital purchases.</p> <p>Objectives/Benefits: Provide a more efficient way to manage the department's mobile equipment assets and to provide a consolidated means for reporting on department assets.</p> <p>Drivers: Better oversight of the department's stationary and mobile equipment.</p>	Med	Med	High
In Progress	Parking System Enhancements	DARM - Parking		<p>Description: The City Parking Division is interested in enhanced phone payment collection options and demand pricing based on available parking spot offerings in City lots. In addition, there are mobile software apps that work in conjunction with parking availability/directional software that identifies how many spaces remain in a ramp, on a street, or within a structure that would be available to the public.</p> <p>Objectives/Benefits: Increase parking management oversight and provide ease of locating available parking spaces for the public.</p> <p>Drivers: Enhanced service delivery to public and efficiency for City Parking Division staff.</p>	High	Low	Med

<p>In Progress</p>	<p>Predictive Analytics Software</p>	<p>DPU - Water Systems</p>		<p>Description: The Water Quality and Delivery division collects massive amounts of data within the systems used to manage the City's water. Currently, there is no means to generate consolidated reporting from these systems. This project is to work with a consulting firm to create an RFP including a scope of work for accessing the data and completing the analysis and reporting required. Objectives/Benefits: The DPU goal is to create a warehouse of consolidated data and access this data to run predictive analytics and reports to provide efficiencies in service delivery. Drivers: Identify opportunities for optimization. In the long term, modeling can provide agency cost savings.</p>	<p>Med</p>	<p>Med</p>	<p>Med</p>
<p>In Progress</p>	<p>Progressive System Enhancements</p>	<p>Finance - Business Tax</p>		<p>Description: The Progressive System is used for Business Tax management. The system is standalone and currently does not interface to the City business applications. This project is to complete the necessary software upgrade and implement several interfaces to other City systems to eliminate redundant data entry and reconciliations. The City would like to include an interface with the State Board of Equalization to electronically verify how much money businesses are reporting to validate accuracy. Objectives/Benefits: The goal is to coordinate an upgrade to the latest version and complete the interfaces for Progressive and PeopleSoft currently being developed. The department will additionally benefit from the interface to the State Board of Equalization. Drivers: The most recent software version will allow for attachment of zoning permits (needed before tax certificate issuance) and eliminate redundant data entry.</p>	<p>High</p>	<p>High</p>	<p>High</p>

In Progress	Project Management System	PW - Capital Projects / Engineering	<p>Description: To evaluate the Public Works department project management needs and either procure a new system or leverage a current project management system used at the City. Both Capital Improvements and the Engineering groups are interested in project management automation tools that will eliminate redundant tracking of project information and provide the necessary reporting.</p> <p>Objectives/Benefits: Review the project data currently maintained in Excel and other tools to determine if an electronic project management solution will benefit the department and eliminate the data being rekeyed between the estimates files, budget files, scheduling files and future interface to the current or future ERP system.</p> <p>Drivers: Consolidate functionality to eliminate double data entry and data discrepancies</p>	Med	Med	Med
In Progress	Public Safety Communications System Assessment	Police/Fire/ISD	<p>Description: The City's existing infrastructure for public safety communications (radios, consoles, transmitters, etc.) is aging, cannot meet the City's requirements for reliability and interoperability, and relies on technologies that are at the point of obsolescence and a diminishing pool of staff members with the skills and experience required to maintain it. This project assesses the viability of moving to 700 MHZ and replacing radio infrastructure.</p> <p>Objectives/Benefits: Migrate to a new communications environment that is more resilient, secure, extensible, and supportable.</p> <p>Drivers: Public safety.</p>	High	Med	High

In Progress	Public Safety Communications System Replacement - 700 MHZ	Police/Fire/ISD	<p>Description: The City's existing infrastructure for public safety communications (radios, consoles, transmitters, etc.) is aging, cannot meet the City's requirements for reliability and interoperability, and relies on technologies that are at the point of obsolescence and a diminishing pool of staff members with the skills and experience required to maintain it.</p> <p>Objectives/Benefits: Migrate to a new communications environment that is more resilient, secure, extensible, and supportable.</p> <p>Drivers: Public safety.</p>	High	Med	High
In Progress	Public Safety Communications System Replacement - MW	Police/Fire/ISD	<p>Description: The City's existing infrastructure for public safety communications (radios, consoles, transmitters, etc.) is aging, cannot meet the City's requirements for reliability and interoperability, and relies on technologies that are at the point of obsolescence and a diminishing pool of staff members with the skills and experience required to maintain it. This project is for the replacement of the Microwave and Console systems.</p> <p>Objectives/Benefits: Replace end of life/end of support equipment with new/supported equipment that is interoperable with neighboring agencies.</p> <p>Drivers: Public safety.</p>	High	Med	High
New	Real Property Inventory Management	DARM - Downtown	<p>Description: The DARM Downtown Division manages the City's real estate properties and is currently using manual processes to manage the tenants, accounting, and marketing of the properties. The division would benefit from an enhanced electronic means to provide oversight to the inventory of these properties to easily be able to make updates and provide a property list to the public via the City web site for marketing and informational purposes.</p> <p>Objectives/Benefits: Confirm the real estate property</p>	Med	High	High

				<p>management needs and identify a property management system that supports the department. The scope would include features to enhance marketing of the properties via electronic media, enhance services to tenants, improve reporting, and create a payment interface between the City ERP system to eliminate redundant payment entry.</p> <p>Drivers: Ability to market and electronically manage City real estate properties.</p>			
New	SCADA Master Plan	DPU		<p>Description: This project is to complete an assessment of the City's SCADA system(s) and develop a SCADA Master Plan. The assessment would include a review of current system release versions, recommendations for possible upgrades, validation of physical and cyber security enhancements, and provide recommendations for overall improvements. The project would additionally include review of the Syetic/Sneider product overseeing 260 City wells that is at end-of-life.</p> <p>Objectives/Benefits: The development of a SCADA Master Plan will provide a roadmap for the City to support and maintain a secure SCADA system, and identify areas to be addressed or requiring planned future maintenance, upgrades, or replacements of the SCADA systems.</p> <p>Drivers: To be proactive in the support of the SCADA systems.</p>	Med	Med	High
In Progress	Security Assessment Update	ISD		<p>Description: Perform an update on the City's security offerings and programs.</p> <p>Objectives/Benefits: Ensure the City's security offerings are up-to-date.</p> <p>Drivers: Last assessment was in 2015 and it is time for an update.</p>	Med	High	High

In Progress	Server Room Fire Suppression	ISD		<p>Description: Implement proper fire suppression for the City's server room.</p> <p>Objectives/Benefits: This will ensure that our servers and other essential equipment are properly protected in case of emergency. This project replaces old halon technologies with new state-of-the art technology.</p> <p>Drivers: Ensure that our server room equipment is secure in case of fire.</p>	Med	High	High
In Progress	Shot Detection Expansion	Police		<p>Description: Continual expansion of shot detection program.</p> <p>Objectives/Benefits: Ensure public safety.</p> <p>Drivers: Continue to expand and support public safety.</p>	Med	Med	Med
In Progress	Street Light Management	PW - Engineering		<p>Description: This project is to procure and implement a City Street Light Management system. As the City moves to new LED street lights, the addition of a light system offers intelligent ON/OFF switching, progressive dimming, pre-programmed schedules, usage, and performance reporting.</p> <p>Objectives/Benefits: The goal is to provide better control and management, cut energy costs, improve safety, and ensure economic control through a smart lighting system. Improves management of burnt-out lights, proper LED bulb usage, and electronic control with links to back-office systems.</p> <p>Drivers: To leverage intelligent control systems that can rapidly increase City lighting efficiencies.</p>	Med	Med	Med
New	SymPro Review	Finance - Treasury		<p>Description: Review the current SymPro Treasury Management system for future viability and either upgrade to a current version or procure and implement a replacement system.</p> <p>Objectives/Benefits: The current system is outdated and requires manual reconciliations that can cause errors. Look at cloud based systems when considering</p>	Med	Med	High

				<p>upgrading or replacing the Treasury software. Functionality should provide for interface of journal entries through to PeopleSoft.</p> <p>Drivers: Update out-of-date software and gain efficiencies.</p>			
New	Tap Cards	FAX		<p>Description: Implement Transit Access Pass (TAP) Card fare collection technology in FAX transit vehicles. The TAP card is a form of electronic ticketing used on most public transport services.</p> <p>Objectives/Benefits: The transit vehicle fare boxes currently in use are for tickets only. (No cash fare transactions on vehicles.) FAX is interested in using a transit smart card that holds pass information and acts as cash on a reusable card.</p> <p>Drivers: Ease of fare collection and an additional option for public riders.</p>	Med	Med	Med
New	Tax Data Management	Finance - Debt		<p>Description: The Debt Division currently manages City tax data, bonds, loans, capital leases, etc. with an MS Access database. The current database is facing its size limitation and should be migrated to a SQL solution. This project is to review current City systems to see if any can be leveraged to support this data or identify a new system to manage this data. This should include a review of the manual processes used to enter financial data via journal entries into the ERP.</p> <p>Objectives/Benefits: To replace the MS Access database to avoid loss of data and to avert performance issues. A new system will provide stability and offer interface efficiencies into the future.</p> <p>Drivers: The limitations of the MS Access database.</p>	High	Low	Med

<p>In Progress</p>	<p>Test / Evaluate Parking Smart Meters</p>	<p>DARM - Parking</p>	<p>Description: Smart parking meters have been implemented in several locations in the City, but they are more expensive and have not been considered for deployment Citywide at this time. This project is to continue to look at smart meters that offer multiple payment options (coins, credit/debit cards, and pay-by-phone). The latest technology provides for solar powered/rechargeable battery options and are managed wirelessly through web-based management systems, which means no additional technology infrastructure is required. The costs are continuing to decrease and the department would like to continue with this replacement strategy in the future. Objectives/Benefits: Complete evaluation of Smart Meter technology to replace the City's existing Parking Meters. Drivers: Improve parking payment options for the public and provide enhanced management tools.</p>	<p>Med</p>	<p>Med</p>	<p>High</p>
<p>New</p>	<p>Trash Route Planning Program</p>	<p>DPU - Solid Waste</p>	<p>Description: Implement new Route Planner programming and update the solid waste fleet of vehicles with the necessary hardware and software. This will have a starting budget in 2017 and will encompass four years till all vehicles are updated. The current system is failing and not meeting the department's needs, and requires replacement to ensure the quality of solid waste services provided to the public is maintained. Objectives/Benefits: Identify and procure the best fit hardware, software, and complete the implementation and setup data for City waste routing. The automated software will track receptacle locations and missed pickups using advanced AVL and GPS tracking in the City's 88 waste trucks. Overall, the new system will be more customer-centric.</p>	<p>Med</p>	<p>Med</p>	<p>Med</p>

				<p>Drivers: Lack of a sustainable interface with the current system and City solid waste trucks, which limits access to live data.</p>			
Completed	Trip Planner System	FAX		<p>Description: A Trip Planner System provides real-time communication tools for riders to identify the arrival time of buses via mobile apps or the City website. The City has over 621 possible rider routes and a rider would be able to get the estimated stop time in based on electronic tracking through this type of system. This project is to procure the hardware and software to communicate with City vehicles from the route. The system should include analytic tools and predictive software using real-time location status, demographics, populations, ridership history, and traffic routes.</p> <p>Objectives/Benefits: The system would provide riders with the correct time for transit vehicle arrivals based on live tracking data.</p> <p>Drivers: Improved customer service via correct route times.</p>	Med	Med	Med

In Progress	Utility Billing Assessment	DPU - UB and Collection	<p>Description: The Utility Billing and Collections division is using HTE SunGard modules that were installed in 1996. As the DARM department completes their procurement to replace their land management system modules within HTE with a new product, the Utility Billing and Collections group will need to determine their future use of the HTE system as well. This project is to complete an assessment and determine if it makes sense to stay with HTE or move to another system, and how to best operate efficiently based on the recent operations assessment by a third-party consultant.</p> <p>Objectives/Benefits: To complete a formal assessment of technology systems supporting the division and provide direction for the future. Areas to review include future mobility needs, the ownership of the master "Address" database maintained in HTE, and how to best manage client accounts, work orders, and services oversight in the future.</p> <p>Drivers: Address issues identified in recent operations assessment.</p>	High	High	Med
New	Vehicle Yard Management	FAX	<p>Description: Prior to a driver leaving and returning from a route shift with a City transit vehicle, a series of mandatory inspections must take place. Currently, all of the pre and post trip tasks to be completed are managed in paper form. This project is to procure and implement the fleet/yard technology system that provides for automated pre and post trip tasks/assignments. It would require electronic acknowledgment of task completion in order to leave the yard with a vehicle and end the route shift.</p> <p>Objectives/Benefits: The Vehicle Yard System will provide electronic tracking of completion of these pre and post trip tasks and eliminate the manual</p>	Med	Med	Med

				reconciliation paper reports for all daily pre and post trip activities. It would include tracking of all mandatory inspection items (i.e. vehicle wash needed, wiper fluid level, windows functioning, door checks, lights operating, etc.) before going into service. Drivers: Replace paper processes with electronic opportunities to save time and eliminate manual reporting.			
In Progress	Video Policing Upgrades/Updates	Police		Description: Continual expansion of Video Policing program. Objectives/Benefits: Ensure public safety. Drivers: Continue to expand and support public safety.	Med	Med	Med
In Progress	VOIP PIER - Features Enhancements	City-wide		Description: Complete a Voice Over IP (VOIP) Post Implementation Evaluation Review (PIER) as a follow-up to continually look to improve the utilization of new technology. A VOIP PIER will help identify any outstanding issues that need to be addressed and provide direction for next steps. Objectives/Benefits: Items of interest identified during department interviews included follow-up training on how to access statistics and reporting, defining additional functionality for on-hold queue announcements and options to go directly to voice mail if desired, and the ability to change public display of number on outgoing calls (want to show as "private or no number" displayed) so it doesn't show workstation number. Follow-up training is being requested as well to benefit the end user community by fully utilizing system features and functionality. Drivers: To take full advantage of the VOIP system	Med	Low	Med

				and have City staff comfortable with use of the system.			
New	Volunteer Management System	PARCS		<p>Description: The PARCS division uses volunteers on a regular basis and sporadically for events and activities throughout the year and would benefit from the electronic tracking of volunteers. A Volunteer Management System would support and manage the City's needs and match them to volunteers according to skills and availability for scheduling. Currently, all volunteer activities are tracked in Excel spread sheets and/or in paper form manually at each location. This project would look to consolidate the volunteer data and help provide oversight and management of such activities.</p> <p>Objectives/Benefits: The City should look at the current RecTrac system to see if a module is available to meet this need and/or look at a commercial of the shelf (COTS) solution. "Hands on California" is a third-party source that maintains a database that the City currently works with as they help manage several events and use this application when working with the City. The solution should include a mobile app that helps add additional volunteers at events in real time, and provide multiple report options.</p> <p>Drivers: Need a better way to track over 2,000,000 volunteer service hours.</p>	Med	Med	Med

				UPDATE: CAN BE DONE IN PEOPLESOFT			
Completed	Wi-Fi Access Implementation Project	ISD	Y	<p>Description: The Wi-Fi Assessment Project is to identify areas within City Hall and remote facilities/locations that are not adequately covered with Wi-Fi access.</p> <p>Objectives/Benefits: To continually review and address growing needs for Wi-Fi access with sufficient speed to meet the current and future needs of City staff and the public. Continue to oversee the Wi-Fi requirements of the City and address the requests as needed through annual planning.</p> <p>Drivers: Enhanced internet access throughout City faculties and remote locations.</p> <p>UPDATE: This project was modified to involve the implementation of Wi-Fi capabilities beginning in FY 2017/18</p>	Med	Med	Med
In Progress	Windows O/S Upgrades	ISD	Y	<p>Description: ISD is looking to stay up-to-date with the latest operating systems. This is a best practice and required for system enhancements moving forward.</p> <p>Objectives/Benefits: Stay up-to-date with the latest operating systems.</p>	High	High	Med

				<p>Drivers: Ensure the ability to run current software on PCs as well as ensure security of systems with new technology.</p>			
New	Work Order Asset Management System Assessment	DPU-Water/City wide	Y	<p>Description: The City is presently using a number of separate work order and asset management systems including Hansen and Corrigo. This project envisions conducting an assessment to determine if the City can consolidate work order and asset management functions into a single, enterprise solution that can be adapted for the needs of different departments.</p> <p>Objectives/Benefits: The goal of this project is to determine whether the City could migrate to a single work order / asset management solution and to identify the steps and funding required.</p> <p>Drivers: Better leverage the City's investments in information technology, improve asset information sharing, and improve staff productivity..</p>	Med	Med	Med
On Hold	Work Order System Integration with GIS	City-Wide	Y	<p>Description: In conjunction with the development of the assessment of the feasibility of the City migrating to a single, enterprise, work order and asset management system, the City will consider the steps required to integrate the City's GIS systems with the enterprise work order / asset management system.</p> <p>Objectives/Benefits: Improve the ability of the City to manage its infrastructure assets.</p> <p>Drivers: Improve staff productivity, improve service to the community.</p>	Med	Med	Med
On Hold	Work Order System Intermin Enhancements	DPU - Water Systems		<p>Description: This project would provide for interim enhancements to the City's Hansen Work Order / Asset Management System pending the development of the assessment of the feasibility of the City moving towards an enterprise Work Order / Asset</p>	Med	Med	High

				<p>Management solution.</p> <p>Objectives/Benefits: Improve the ability of DPU to manage assets and to create, prioritize, and track work orders.</p> <p>Drivers: Improve the ability of the Hansen application to meet the City's needs.</p>			
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Appendix B: Project Prioritization Worksheet

Project Title	Owner/ Sponsor	Enterprise Project (Y/N)	Status (C - Complete, IP - In Progress, H- Hold, N - New)	Level of Effort (1 = Low, 3 = Medium, 5 = High)	Risk (1 = Low, 3 = Medium, 5 = High)	Business Value 1 = Low, 3 = Medium, 5 = High					Planned Project Duration By FY				
						Community Engagement	Business Enhancement	Cost Reduction	Technology Replacement	Average	2016-17	2017-18	2018-19	2019-20	2020-21
Updated: August 2019															
311	ISD		C	3	3	5	5	3	3	4	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
Automated Benefit Enrollment	Finance - HR/Payroll		C	3	5	1	5	5	3	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>
Bus Rapid Transit System	FAX	Y	C	3	3	5	5	3	3	4	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
City Clerk Document Portal	City Clerk		C	3	3	5	3	3	3	3.5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
City Hall Security Phase I	City Manager	Y	C	3	5	1	5	3	5	3.5	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
City Website	Mayor's Office / PIO		C	5	3	1	5	5	1	3	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Closed Captioning	City Clerk		C	3	3	5	5	3	3	4	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communications App	ISD		C	3	3	3	5	3	3	3.5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
Digital Signage	ISD		C	3	3	5	5	3	5	4.5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Content/Document Management System - Phases 1 thru 3	Public Works		C	3	3	1	5	3	3	3	■■■■	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FAX Mobile App (myFAXBus)	FAX		C	3	3	5	5	3	5	4.5	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finance Laserfiche Integration	Finance		C	3	3	1	5	3	3	3	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fulton Mobile App	City Manager		C	3	3	5	5	5	5	5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>

Inspector App	DARM		C	3	3	5	5	5	5	5	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land Management System	DARM		C	3	3	5	5	3	5	4.5	■■■■	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Legislative Enhancements	City Clerk		C	1	1	1	5	5	1	3	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
Trip Planner System	FAX		C	3	3	1	5	3	1	2.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wi-Fi Access Implementation Project	ISD	Y	C	3	3	1	5	3	3	3	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Budget Financial Management (Phase 2)	Finance - Budget		H	5	1	5	5	3	3	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DPU App	DPU		H	3	3	5	5	3	5	4.5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
Key Valet System	FAX		H	3	1	3	3	1	5	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PARCS Mobile App	PARCS		H	3	3	5	5	3	5	4.5	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work Order System Integration with GIS	City-Wide	Y	H	3	3	1	3	3	3	2.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>
Work Order System Intermin Enhancements	DPU - Water Systems		H	3	3	5	5	3	3	4	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
10X Upgrade (Order Processing)	ISD		IP	3	3	3	5	3	3	3.5	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agenda Management Assessment	City Clerk		IP	3	3	5	5	3	3	4	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airport Customer Maintenance Management System	Airport		IP	3	3	5	5	3	1	3.5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>
Automated Irrigation Systems	PARCS - Maintenance		IP	5	3	5	5	3	5	4.5	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Badger Meter (Read Center) Replacement Completion	DPU - UB		IP	3	3	5	5	3	1	3.5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
BroadBand/Small Cells	ISD	Y	IP	5	3	5	5	3	5	4.5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	■■■■	■■■■
BRT Cameras	FAX		IP	3	3	5	5	1	3	3.5	<input type="checkbox"/>	■■■■	■■■■	■■■■	<input type="checkbox"/>
Building Security Access	PARCS		IP	5	5	1	5	5	3	3.5	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
City Hall Security Phase II	City Manager		IP	3	3	5	3	2	3	3.2 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>
Computer Equipment (Desktop) Replacement Plan	ISD	Y	IP	5	3	3	5	3	5	4	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Council Chamber Upgrades	City Manager		IP	3	3	5	5	3	3	4	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	■■■■	■■■■
Document Management System Implementation (City-wide)	City-wide	Y	IP	3	3	1	5	3	3	3	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
Document Management System Roadmap	City-wide	Y	IP	3	1	5	5	3	1	3.5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>

Electronic Content/Document Management System - Phase 4	Public Works		IP	3	3	1	5	3	3	3	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
EOC/COOP	City Manager	Y	IP	3	5	3	5	3	5	4	<input type="checkbox"/>	■■■■	■■■■	■■■■	<input type="checkbox"/>
ERP (PeopleSoft) Assessment	Finance/HR/ISD	Y	IP	3	3	1	5	5	3	3.5	<input type="checkbox"/>	■■■■	■■■■	■■■■	■■■■
ERP (PeopleSoft) Upgrade / Replacement	Finance/HR/ISD	Y	IP	5	3	1	5	3	5	3.5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>
e-Signature	City Clerk		IP	3	3	3	3	3	3	3	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
Governance	City Manager	Y	IP	5	3	5	5	3	3	4	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	■■■■	■■■■
High Speed Connectivity	ISD		IP	3	3	1	5	3	3	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Strategic Plan Update (External Review)	ISD	Y	IP	3	5	3	3	3	3	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■■
m365 Implementation	ISD	Y	IP	5	5	3	3	3	3	3	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	■■■■	■■■■
Microsoft M365 Upgrade	ISD	Y	IP	4	3	1	4	1	5	2.7 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Network Infrastructure Upgrade	City-wide	Y	IP	3	3	5	3	1	3	3	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parking System Enhancements	DARM - Parking		IP	5	1	1	3	5	5	3.5	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>
Predictive Analytics Software	DPU - Water Systems		IP	3	3	1	5	3	3	3	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Progressive System Enhancements	Finance - Business Tax		IP	5	5	5	5	3	5	4.5	■■■■	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project Management System	PW - Capital Projects / Engineering		IP	3	3	1	5	3	1	2.5	<input type="checkbox"/>	■■■■	■■■■	■■■■	■■■■
Public Safety Communications System Assessment	Police/Fire/ISD		IP	5	3	3	5	3	5	4	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Safety Communications System Replacement - 700 MHZ	Police/Fire/ISD		IP	5	3	3	5	3	5	4	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
Public Safety Communications System Replacement - MW	Police/Fire/ISD		IP	5	3	3	5	3	5	4	<input type="checkbox"/>	■■■■	■■■■	■■■■	■■■■
Security Assessment Update	ISD		IP	3	5	3	5	3	5	4	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Server Room Fire Suppression	ISD		IP	3	5	3	5	3	5	4	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>
Shot Detection Expansion	Police		IP	3	3	3	3	3	3	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>
Street Light Management	PW - Engineering		IP	3	3	1	5	3	3	3	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
Test / Evaluate Parking Smart Meters	DARM - Parking		IP	3	3	5	5	3	3	4	<input type="checkbox"/>	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>

Utility Billing Assessment	DPU - UB and Collection		IP	5	5	1	5	3	3	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Video Policing Upgrades/Updates	Police		IP	3	3	3	3	3	3	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VOIP PIER - Features Enhancements	City-wide		IP	3	1	1	5	3	3	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Windows O/S Upgrades	ISD	Y	IP	5	5	3	3	3	5	3.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accounting System Replacement	Retirement Office		N	3	3	1	5	1	3	2.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Buildingeye Software	DARM		N	3	3	1	5	5	3	3.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bus/Transit Vehicles	FAX		N	3	3	1	5	5	3	3.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CAD/AVL System Purchase	FAX/DPU		N	3	3	1	5	1	3	2.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contract Management	City Clerk/Attorney		N	3	3	5	3	1	1	2.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Digital Government Strategy	ISD		N	3	3	1	3	3	5	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Document Management System - Retirement	Retirement Office		N	3	1	1	5	5	1	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Donations Management	PARCS		N	3	1	1	5	5	1	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eaton Power Mgmt. Upgrade	DPU		N	5	3	1	5	5	1	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency Reporting System Interfaces	Fire		N	3	3	1	5	3	5	3.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fiber Master Plan	ISD	Y	N	3	3	5	3	3	3	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FresGO PIER and Phase 2	City Manager	Y	N	3	3	5	5	3	1	3.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GIS Master Plan (ESRI)	City-wide	Y	N	3	3	1	5	5	3	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grant Management	Finance	Y	N	5	3	5	5	3	3	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazmat Response Software Technology	Fire		N	3	1	1	5	5	1	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heartland Cashiering PIER / Phase 2	Finance		N	3	3	5	3	3	3	3.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Homeless Property Tracking	City Manager		N	3	3	3	3	3	3	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
License Plate Readers	Police		N	3	3	5	5	3	3	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Makerspace Equipment	PARCS		N	3	3	5	5	1	3	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Membership/Pass Management	PARCS		N	5	5	5	5	3	3	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Real Property Inventory Management	DARM - Downtown		N	3	5	5	5	3	3	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SCADA Master Plan	DPU		N	3	3	5	5	3	3	4	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>	■■■■
SymPro Review	Finance - Treasury		N	3	3	5	5	3	3	4	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tap Cards	FAX		N	3	3	5	5	3	1	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■■
Tax Data Management	Finance - Debt		N	5	1	1	5	3	5	3.5	<input type="checkbox"/>	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trash Route Planning Program	DPU - Solid Waste		N	3	3	5	5	1	1	3	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle Yard Management	FAX		N	3	3	3	5	3	3	3.5	■■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volunteer Management System	PARCS		N	3	3	3	5	3	3	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work Order Asset Management System Assessment	DPU-Water/Citywide	Y	N	3	3	1	5	3	3	3	<input type="checkbox"/>	■■■■	■■■■	<input type="checkbox"/>	<input type="checkbox"/>
Park Equipment Inventory Management Integrated With	PARCS		W	3	3	5	5	3	3	4	<input type="checkbox"/>	■■■■	■■■■	■■■■	■■■■
Totals											14	43	40	24	14