

City of Portales

Information, Communications and Technology Plan

Fiscal Years 2015 - 2020



Table of Contents

I.	Vision	3
II.	Alignment of IT investments	5
III.	Strategic Foundational Initiatives	7
	1. Enterprise Applications	8
	2. Data Center Consolidation and virtualization	9
	3. Citywide Broadband and Wi-Fi Access	10
	4. Enterprise Agreements (EA)	11
	5. Citywide Security Plan	12
	6. Dark Fiber	13
IV.	Financial Strategies	14
V.	Positioned for Success	15



The Information Technology (IT) vision for City government emerges from a technology vision of a connected City. In a connected City, information is appropriately applied to the benefit of the entire community, including its' residents, businesses, community based organizations, government operations and visitors.

Secure, innovative and accessible systems are the foundation to success.

The first part of the vision starts with a robust, ubiquitous and unfettered broadband platform. At the heart of the City's IT operations, this platform depends upon low-cost, high-bandwidth fiber optic cabling connecting the City's buildings and infrastructure to secure and innovative operational systems. In turn, this platform is being rapidly expanded to allow free wireless connectivity to employees, residents, and visitors via wireless technology located in the Portales Public Library thereby enabling a constituent-centric government that aligns municipal services with resident needs.

Modernization of the City's infrastructure (data storage, networks, telecommunications, wireless systems, etc.) is needed to ensure this part of the vision is realized. The infrastructure of the City has long been neglected and, while fragments have been improved within individual departments, the core infrastructure has been managed in a fragmented approach. To improve in this area the City will need to proactively pursue industry standard ideas like data storage, high capacity networks and virtualized servers. This approach will enable the City to continue to make improvements in key infrastructure while simultaneously meeting budget reduction targets.

In addition to accessible networked systems, the Plan envisions that these systems will also be secure and disaster resilient. While security adds a level of complexity to the resulting systems the need to ensure the security of systems, and privacy of information, is key to the successful operations of the systems. Given the probability of disaster in the region and the need of modern governments to use technology to manage disasters, the vision of the Plan is to ensure disaster resiliency via a mixture of virtualization, redundant networks, robust data storage, cloud based data backup and proactive business continuity planning.

Innovative Applications + Data Integration + Anytime Anywhere Access = Real Time Decision Making

Another part of the vision focuses on transformation of the City's IT resources through business intelligence, web-enabled applications and anytime-anywhere access. Access to information promotes the City's well-being by enabling day-to-day decision making, enhancing learning and cultural opportunities, and engaging residents in civic participation.

With the underpinnings of city wide system access, innovative solutions will capture business intelligence, provide web-enabled applications, and assure data integration. The facilities the City operates transform into intelligent buildings, roads, transit systems and water systems. Data is made available in public, useable formats. City services provide anytime-anywhere access to data, enabling real time decision-making. By embracing open source technologies, open data initiatives and public/private participation, the City will be able to continue to create innovative applications based on customer demand.

The IT Plan emphasis is on solutions with the highest or most transformational impact. Working within budgetary and workforce constraints, the Plan embraces IT industry trends including:

- High speed computing and networking
- Public and private cloud computing technology and,
- Unified communications, location-aware applications and open source

Over the next five years, City decision makers, in concert with the Information Technology and other stakeholders, will determine the specific technologies to adopt for implementation. Some of the technology adoptions will occur in the short range (less than two years) while others are further out (two to five years).

The success of the IT Plan and the associated city wide benefits are predicated on the commitment of IT working to balance daily departmental operations while embracing citywide transformational initiatives.

II. ALIGNMENT OF IT INVESTMENTS

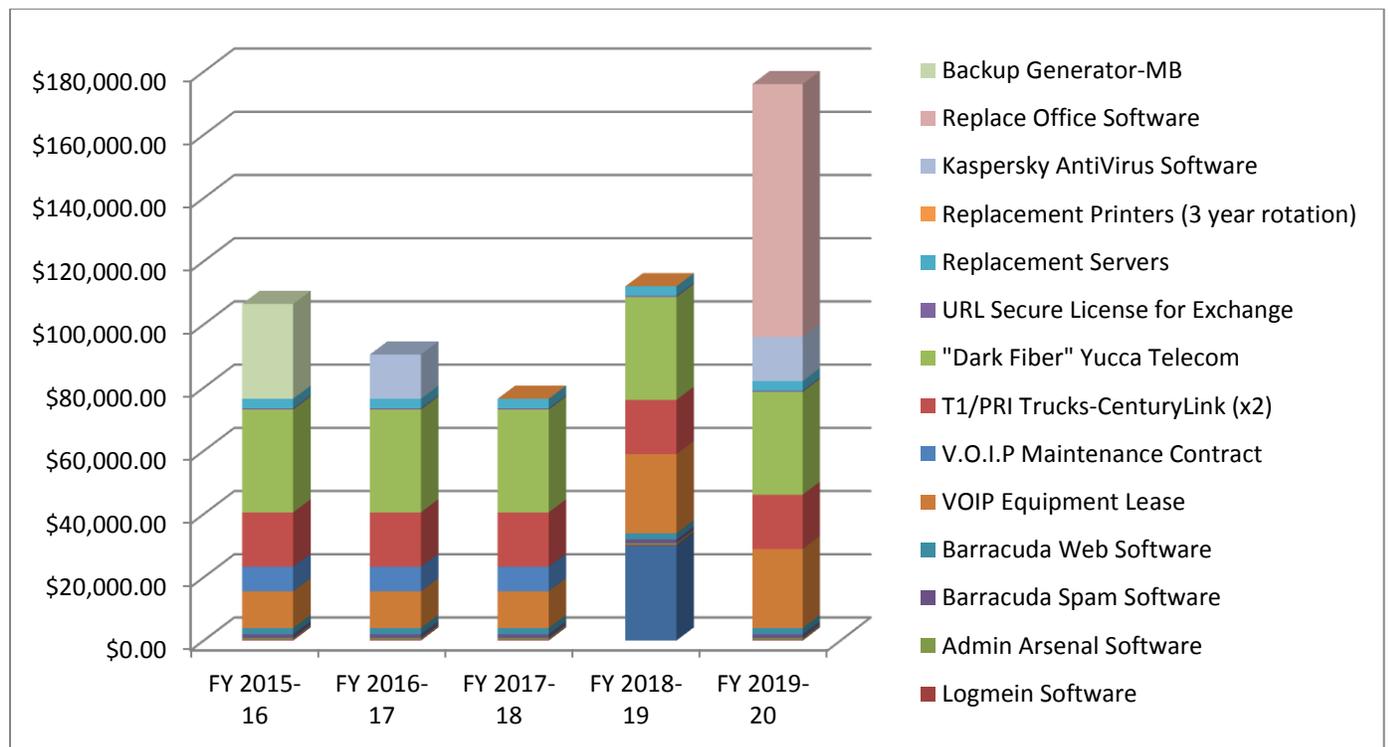
The City is facing unprecedented fiscal challenges, due to reductions from State and Federal sources, losses to local fee and tax revenue and significant increases to the cost of and demands for City services.

In order to provide adequate and intelligent business solutions to meet the service demands, the City needs to focus and align its IT investments to maximize efficiency and effectiveness, and reduce costs. This Plan strives to define the business objectives of each major service area within the City and apply IT investment strategies that will promote and focus its IT solutions to meet these challenges. The FY 2014-15 budget instructions to departments amplify the message to prioritize programs and apply functional consolidation as well as restructure programs in order to reduce cost and improve service delivery.

The IT Plan seeks to find alignment between available resources and the cost of new IT projects over the next five years. The graph below shows future budget allocations needed to meet the demand.

Numbers represented here and throughout the remainder of this Plan are subject to change based on final City Council approval.

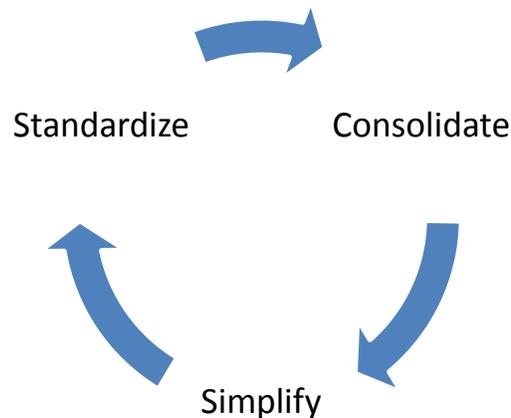
Projected Cost for IT City Wide On- Going Projects



Based on dwindling resources, increased demand for IT projects, mayoral directives and recent IT policy, this Plan presents the following Investment Strategies for 2015-2020:

1. Consolidation -- An approach to optimizing technologies to achieve cost savings, improve performance and mitigate risk. This approach involves planning, optimization and physical migration of systems and facilities. The data center consolidation project and email consolidation project are examples that fulfill this strategy.
2. Standardization--The process of establishing a technical standard, which could be a standard specification, standard test method, standard definition, standard procedure (or practice), etc. The development and implementation of concepts, doctrines, procedures and designs to achieve and maintain the required levels of compatibility, interchangeability or commonality in the operational, procedural, material, technical and administrative fields to attain interoperability. The project which provides standard platform and applications to maintain citywide human resources, position management, time reporting, payroll and benefits administration functions represents this strategy.
3. Simplification--Performance of processes involving a service or product in a manner that is least expensive in terms of effort, money and time, and that is consistent with the objectives of the City. Enterprise agreements and procurement consolidation for IT services and equipment are examples of this strategy.

The following graphic is intended to visually depict the reinforcing aspects of the IT Investment Strategies.



III. STRATEGIC FOUNDATIONAL INITIATIVES

By recognizing the business value of technology, the City has the opportunity to improve the delivery of its services and better allocate scarce resources. Experience is already illustrating that through the appropriate use of technology, the impact of financial constriction can be mitigated. Investment in technology can become a strategic empowerment tool rather than a standard “cost cutting” tactic.

The common realization is that the current fragmented, decentralized approach to the City’s technology infrastructure and operations cannot be sustained. The current fiscal crisis has laid bare the fractured state of the City’s approach to IT and shown the necessity for a more rational approach for applying technology to solve business needs and create systemic savings through operational efficiencies. These are accomplished by leveraging common application functionality, where appropriate, across the City, and through the development of a citywide Information and Communications Technology (IT) foundational backbone.

Through the collective engagement of Department Heads and IT managers and the application of common prioritization criteria, the following Foundational Initiatives were selected as they either enabled better service delivery citywide or created the potential for significant citywide savings:

1. Enterprise Applications
2. Data Center Consolidation
3. Citywide Broadband and Wi-Fi Access
4. Enterprise Agreements (EA)
5. Citywide Security Plan
6. Landline Reductions
7. IT Staff Support increases
8. Reproduction and Mail Consolidation
9. Dark Fiber and Tower Leasing

1. Enterprise Applications

The term Enterprise Application or Enterprise Software describes a collection of computer programs with common business applications or tools for supporting the entire organization. This broad-based software is intended to solve an enterprise-wide problem rather than a departmental problem.

1.1 Email and Active Directory

Description

In July 2013, the Department of Technology moved all email services to a single Microsoft Exchange 2013 platform from the existing email installations provide by Yucca Telecom. This is only one example of an Enterprise Application.



Rationale

The email service provided to the City was extremely limited on capabilities. There was no ability to interface with existing Microsoft Outlook 2010 clients that were on all computers in the City. The calendar used extensively by City employees could not be emailed because of the file format, calendars could not be shared and private calendars could not be created. A work around for calendar sharing was put in place but only added to the operation cost and was limited to just ten users. Finally, Yucca Telecom had no business continuity plan so that in the case of a localized or large scale disaster the email systems of the City would not be severely impacted. The migration to the new system will result in more integrated, disaster resilient and cost-efficient email services for City employees, and will allow the City to provide new services that will enhance flexibility and productivity. Core to the ability to implement this system (and support other citywide systems) the City is implementing a citywide federated Active Directory solution.

No budget amount was approved for this effort. A cost sharing plan was developed with each Department providing a set amount per email user. This Email migration to Exchange Server 2013 was one of the critical tasks in support of the City's overall IT Consolidation Project. Roughly 120 City email users converted to Microsoft Exchange 2013.

Results Anticipated

- A single citywide email system with robust disaster resiliency, enhanced collaboration functionality and a more streamlined system.

2. DATA CENTER CONSOLIDATION

Description

Consolidation of data centers around the City will reduce square footage utilized to house equipment, reduce underutilized equipment, and improve data center resiliency and disaster readiness.

Rational

The City of Portales currently houses its information technology (IT) equipment (servers, storage and mainframe computers) in a number of data centers, data rooms and data closets. This dispersed approach leads to duplicated support costs and greater exposure to risks such as power failures, excessive heat and tampering.



The purpose of the Data Center Consolidation Project is to house the equipment that hosts the City's mission critical IT systems in fewer, more robust and more secure environments and thereby increase the efficiency and reliability of City services that depend on these systems. Additionally, by consolidating equipment into fewer physical sites the City will also have the opportunity to reduce the total number of physical servers, reduce space, improve equipment utilization, and share infrastructure services such as physical security, fire suppression and cooling.

Results Anticipated

- Reduction in the number of data centers
- Improve facilities (Tier 2 minimum)
- Reduction in total racks, physical servers and associated support costs
- Improve security
- Improve disaster readiness
- Increase server utilization
- Increase management of end user computing environment
- User environments and hardware are standardized
- Increase security through better management and control
- Effective and portable Disaster Ready solution
- Lower cost of ownership for equipment and software
- Decrease staff support time per device
- Centralize deployment, repair and maintenance of computer systems

3. CITYWIDE BROADBAND AND WI-FI ACCESS

Description

The City will expand broadband and Wi-Fi capacity.

Rationale

Government Services

The City can reduce its operational costs and increase reliability by migrating from leased circuits to City owned facilities. Data center consolidation, new video based services, emerging reliance on cloud computing and broadband intensive City services will lead to greatly increased demand for reliable bandwidth.



Results Anticipated

- Meet the present and future bandwidth requirements of departments
- Savings as a result of replacing leased circuits
- Facilitate departments in adopting new technologies and applications
- Increase reliability and timely service response
- Achieve 90% broadband adoption by 2016

4. Enterprise Agreements (EA)

Description

The City will develop and implement a process and procedures for consolidating information and communications technology (IT) EA contracts. This will allow for predictable requirements and the best outcome of technology procurement for the City.

- Hardware, software and professional services in one agreement make a credible switching threat between vendors and a very competitive marketplace
- Adopt aggregated purchasing and strategic sourcing
- Effectively execute the City's public policy goals related to purchasing
- Centralize customer access
- Assure transparency city wide with a high degree of customer service

Rationale

The Department of Technology should “determine the most appropriate technological offerings of any enterprise agreement, and then negotiate lower costs by aggregating all City Department's requests.”

This initiative will maximize the value the City receives on spending. In addition, this will create a standardization of technology and reduce redundant systems while inducing a competitive marketplace with City vendors. This will also bring standardization to the proposal evaluation process, and create a repository of recurring specifications.



Results Anticipated

- Maximize the value the City receives on spending
- Reduce future costs
- Eliminate threshold for buying
- Increase purchase authority
- Ensure integrity of the purchasing process – honest and fair
- Delegate contract authority
- Initiate advance acquisition planning

5. Citywide Security Plan

Description

A comprehensive Enterprise (citywide) security plan is underway that is tied to best security practices.

Rationale

Several recent incidents in security lapses have magnified the importance of establishing a comprehensive security plan. Not all departments have the resources or skills to conduct a security review/plan for their departments. A citywide plan is critical to the overall umbrella of security needed by departments. This effort will increase computing and network performance of Enterprise services by reducing inappropriate usage, providing better response to security incidents and reduce the City's exposure to security threats.



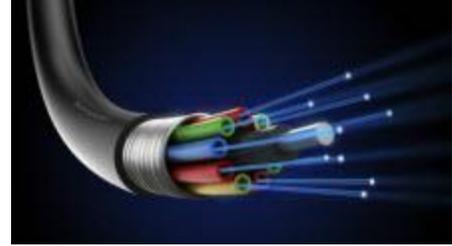
Results Anticipated

- Significant reduction in exposure to “unwanted” incursions
- Increase the confidentiality, integrity and availability of enterprise networks and computing platforms
- Reduce “security holes” in citywide network topology to an acceptable risk level
- Cost effective expenditure on integrated and standardized security monitoring and enablement tools
- Internal, on-going and coordinated IT security skill capability and capacity improvements
- Creation of a sustainable security program with measurable results
- Increase response to security threats in a reduced timeframe
- Raise employee awareness of security policies and practices citywide
- Create a more controlled computing environment for the Enterprise

6. Dark Fiber

Description

Fiber optic communications operate by transmitting light through strands of glass. The thickness of hair Fiber is “lit” when network equipment at either end of the fiber transmits and receives light, and “dark” when installed but not used.



Under a “Dark Fiber” lease, contractor “lights” the fiber.

Under the proposed arrangement, the Contractor would install the fiber strands and be responsible for repair and maintenance, the Technology Department would be responsible for installing and operating the network equipment.

Portales is experiencing a growing demand for physical locations.

Rationale

Bandwidth for the city services is at an all-time slow. Programs, VoIP phone services and servers cause delays in services to the users, delays in creating backup copies of critical files and the customers of the city.

Results Anticipated

- Better VoIP call quality
- Better Bandwidth between sites for users
- Faster and dependable backup of critical data files

IV. FINANCIAL STRATEGIES

The City has already begun to improve its infrastructure and IT systems through a citywide approach to developing IT solutions to meet common business objectives. Examples of these efforts include data center consolidation, standardizing IT platforms, and converting the City to one email system. However, the needs identified in this Plan far exceed the available funding. Even with additional aggressive deployment of the IT strategies of consolidation, standardization and simplification, not enough money will be available, given the City's current financial frame work. The following "Financial Strategies" were developed to enable the City to increase investments in technology projects while recognizing financial limitations, and to improve service delivery to the City.

Financial Strategies include:

- Develop bond/debt financing instruments for large infrastructure IT replacements and enhancements in order to complete high priority projects in the next five years, while extending repayment over a longer period of time. For example, the City could finance emergency system infrastructure by increasing the user fees or taxes.
- Expand the City's current lease financing program to include more IT projects, and commit to an annual allocation to pay for annual lease payments.
- Extend "enterprise" department IT investments to citywide use to the extent allowed by regulations and law and reimburse them for citywide costs.
- Also, use an allocation methodology so that the costs of citywide investments are shared between enterprise departments and the General Fund.
- Pursue grants and other state and federal sources.
- Free up existing funds for IT investments by pursuing the following strategies:
 - Redirect base budgets to fund future projects , and include IT base budget funding in annual budget justification discussions.
 - Prioritize enterprise-wide applications and retire existing stand – alone systems that provide the same functional requirements.
 - Re-allocate savings from consolidations to fund IT infrastructure improvements and new citywide or multi-department ICT projects.
- Defer projects to later years through prioritization and planning.
- Eliminate or reduce the cost of proposed projects to shrink overall funding need. This should be done through collaboration, sharing of current systems and review of alternatives with stakeholders.

V. POSITIONED FOR SUCCESS

The City is positioned for success, beginning with the construct of this IT Plan, starting with the Director's IT Vision, followed by Strategic Foundational Investments which provide, as the name implies, an IT topology from which department initiatives can flourish.

Through disciplined deployment of the IT Investment Strategies of consolidation, standardization, and simplification and innovative financial strategies, a fundamental shift from continued operational spending to new project delivery is underway.

Continued collaboration within departments and between departments on IT project and business process, standardization and simplification will further stretch available IT dollars. Witness the data center consolidation, email and security projects as visible evidence of results that can, and will be, achieved.



This Plan has the support and endorsement of the Director of Information Technology which is committed to providing the leadership and support needed to enable progress toward the realization of the Strategic Foundational Initiatives and establishing a technology platform that will serve as a lasting foundation for the future.