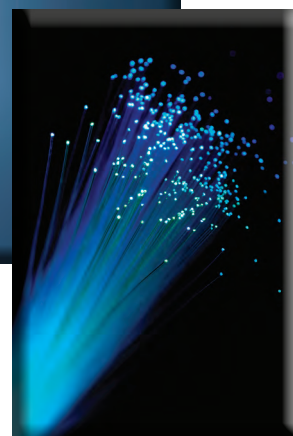


# Information Technology Strategic Plan

## Fiscal Years 2013/14 – 2017/18







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# Introduction

Welcome to the first City of Fremont (City's) Information Technology (IT) Strategic Plan that focuses the City's resources on the efficient and effective use of technology to deliver City services. The purpose of an IT Strategic Plan is to define initiatives and objectives that align with the City's business goals and to improve the balance between demand for more and better technology and available City resources, including staff and capital and operating funds.

The City faces the challenge of aging IT systems and limited IT resources. This five-year Strategic Plan for Fiscal Years 2013/14 through 2017/18 provides a roadmap that will help the City close the gap between current and future IT needs. The plan addresses the key immediate and long-term technology issues facing the City and describes the projects necessary to address the issues as well as a planning methodology to prioritize and fund projects. The Plan also describes the major service areas and IT initiatives to strategically align the City to better deliver these services as effectively as possible. Since this is the first IT Strategic Plan for the City, the Plan includes trends in municipal government and the information technology industry to support the City's technology goals and objectives.

The IT Strategic Plan development and planning process was a citywide effort involving City employees representing all departments. The process focused on identifying the current technology infrastructure, current technology issues, and forecasted technology needs in addition to the services delivered by the Information Technology Services (ITS) Department. The information gathered during the process, together with research about how other cities are addressing technology needs and current technology trends, was used to identify specific technology recommendations.

The need for an information technology strategic plan was affirmed by Management Partners in the Strategic Fiscal Sustainability Study that was completed in 2011. The Study recommended that an IT strategic plan should be developed to help prioritize the City's investments in technology that will "improve efficiency and effectiveness by reducing the need for staff and/or improving staff workload capacity." Consistent with the Study, this IT Strategic Plan focuses on improving IT services that meet broad organizational needs as well as supports collaboration and sharing of IT resources.

The IT Strategic Plan is to be updated annually to ensure that it remains current with the City's evolving IT environment. The projects identified in Appendix A will be reviewed and any new initiatives will be added, or existing projects removed, based on the current business needs of the City over the short range (less than two years), medium range (three to four years), and long range (five years plus).

The City's Information Technology Services Director is responsible for annual updates and collaborates with all City departments in the review process. The Plan is made available to all department staff and the general public through the City's website.

The commitment of all City departments is essential for the success of the IT Strategic Plan and for the City to realize the associated benefits. All departments must work together to balance daily departmental operations while embracing citywide organizational changes resulting from technology initiatives.

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# Executive Summary

## Executive Summary

The Information Technology (IT) Strategic Plan defines the initiatives and objectives that align with the City’s business goals and needs. The Plan identifies a strategy in order for the City to successfully invest in and use technology to enable the City to support and improve service delivery.

The Plan describes the current City organization and provides details on the Information Technology Services (ITS) Department as it is the Department’s responsibility to deliver technology and support services to internal and external users to enable them to achieve their business goals and objectives. The ITS Department consists of four divisions: Business Systems, Infrastructure Services, Geographic Information Systems (GIS), and Administrative Support. Each division is described in the Plan along with its primary service delivery areas.

This is the first IT Strategic Plan for the City of Fremont. Therefore, the Plan identifies internal and external technology users because it is important to understand all users and their business needs in order to deliver the needed technology and related support.

Acknowledgment and analysis of general trends in technology are included in the IT Strategic Plan to provide background for the City to position itself to take advantage of emerging technologies in a timely manner. General technology trends include the following:

- Increased Internet speed and bandwidth
- Mobility and wireless applications
- “Cloud” computing
- eCommerce
- Social media
- Service delivery models
- Business intelligence
- Business continuity
- GIS-enabled technology
- Collaboration

***The IT Vision is:*** To become an integral partner with our customers and the community to enable the City to be recognized as a leader in technology that prides itself on innovation, transparency, and accountability.

***The IT Mission is:*** To deliver the best proven technology and services available for computer, data, telecommunications, mapping, and critical business systems to employees and the public through excellent customer service, continuous improvement, innovative problem-solving, adherence to standardized information best practices, and collaborative solutions.

The IT mission lists the various technology goals for the ITS Department. The IT Strategic Plan also describes guiding principles for governing the daily actions of the ITS Department staff and for planning new projects. The IT guiding principles are broken down into five categories: organizational, infrastructure, data, application, and GIS.

## Executive Summary

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The IT Strategic Plan establishes a methodology for decision-making related to new technology and includes criteria for reviewing and prioritizing projects. The Plan identifies potential project funding strategies that include the existing fund to replace the technology infrastructure and a new fund for replacement of enterprise applications. A formal project management program is introduced as well as a process change management methodology that considers the impact of new technology on the City's employees.

Finally, the IT strategic initiatives are identified and include the following:

- Open data
- Mobile applications
- Enterprise applications
- Business intelligence
- Citywide security plan
- IT fiber optic infrastructure
- Voice over Internet Protocol (VoIP)
- Citywide Broadband and Wi-Fi

Appendix A contains a list of the projects identified by all City departments over the next five years, Fiscal Years 2013/14 through 2017/18. The list describes the projects and their expected implementation timelines. It is important to note that the projects may change over the five-year period as new projects are introduced and existing projects re-prioritized based on available staffing and capital and operating costs and as a result of changes in technology.

The IT Strategic Plan is a roadmap that will help the City more closely align business goals and objectives with technology needs and support services. It is a living document that will be updated annually by the ITS Director in collaboration with all City departments.

The Plan is the first step in the strategic planning effort. To implement the projects, the City must develop detailed implementation plans that identify specific actions, schedules and timeframes, and resource requirements (staff, funding, etc.). The ITS Department will work with the user departments to create the implementation plans for those short-range projects listed in Appendix A.

# Current Environment

## Current Environment

### *City Organization*

The City of Fremont is located within Alameda County on the southeast side of the San Francisco Bay. The City covers over 90 square miles and is the fourth most populous city in the Bay Area with a population of 219,926. Fremont represents a wide range of educational, socioeconomic, and ethnic backgrounds. Recognized as a part of Silicon Valley, the City's expectations are that it is a highly technical organization that provides proven and solid technology to deliver its services to the community.

The City government is composed of 13 departments led by a management team of a City Manager, one Assistant City Manager, a City Attorney and five elected officials. The operating departments include Community Development, Community Services (Parks, Recreation), Economic Development, Fire, Human Services, Police, and Public Works. The internal services departments include City Attorney's Office, City Clerk's Office, City Manager's Office, Finance, Human Resources, and Information Technology Services.

### *Citywide Goals and Initiatives*

The City Council's vision is that the City "will be a globally-connected economic center with community pride, strong neighborhoods, engaged citizens from all cultures, and a superb quality of life." To better understand how technology aligns with the City's business processes, it is helpful to be familiar with the City's initiatives and goals. The lists below are not complete or in priority order and identify some of the projects that demonstrate the relationship between the City's goals and initiatives (taken from the Fiscal Year 2013/14 Operating Budget) and the technology initiatives and projects described in this IT Strategic Plan.

### **Citywide Goals**

- A safe community
- A vibrant local economy
- Public facilities and programs for recreation
- Building a caring community
- Involvement of a diverse population
- Effective and efficient city government
- Creating an aging friendly community

## Current Environment

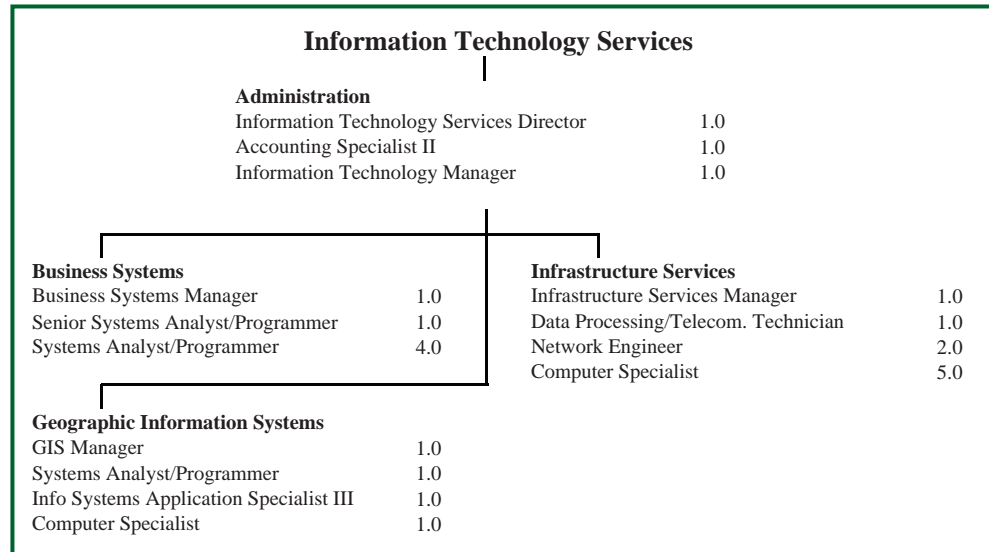
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### **Citywide Initiatives**

- South Fremont/Warm Springs Area development project
- Downtown/Capitol Avenue development project
- Continue to focus retail attraction efforts on strategic opportunities in Downtown, Pacific Commons, and neighborhood districts
- Emerging technology and business investment
- Replace the Community Development Department permitting software system
- Purchase a new software solution to optimize the use of the CERS program
- Continue to develop methods of utilizing criminal information
- Consolidation of Fremont Police Department communications center with the Union City Police Department
- Marketing and public relations efforts to promote the City and attract businesses to the City and launch the new business and proposition website
- Continue to implement new methods and tools to facilitate civic engagement and enhance access to open government
- Expand the City's social media program
- Continue to manage the electronic distribution of agenda packets
- Implement the migration of the City's financial applications
- Upgrade the City's business license application
- Develop and implement an employee performance management program
- Expand mobility by creating, or integrating with, applications
- Standardize project management methodology for information technology projects

## IT Organization

The Information Technology Services (ITS) Department is one of the City's internal services departments. The current ITS Department consists of 22 full-time employees and is led by the Director of Information Technology Services who reports to the Assistant City Manager. There are four divisions in the Department: Business Systems, Infrastructure Services, GIS, and Administrative Support.



## Business Systems

The Business Systems division is responsible for fulfilling the information and service needs of the City by providing leadership in acquiring, deploying, and maintaining high quality, cost-effective and timely solutions. Software applications are one of the most critical technology assets in the City. The effective selection, implementation, and management of the City's software applications are critical in attaining a high level of staff productivity, cost-effective service delivery, efficient business processes, and a return on the City's technology investment.

## Service Delivery Areas

The Business Systems division provides support in five primary areas that are described below:



- 1. Application Review and Assessment Services** includes the review and assessment of all new application acquisition to ensure that the system complies with the City's standards.
- 2. Project Management Services** for consistent implementation of new applications and systems.
- 3. Database Administration Services** includes the configuration, management, and upgrade of the City's standard databases, which are Oracle and Microsoft SQL database systems.

## Current Environment

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4. **Commercial Off-the-Shelf (COTS) Services** includes coordinating with vendors, customer interfaces, application configuration and management, and report creation for the City's third party commercial software applications. The Business Systems team works closely with the user departments to define and communicate requirements to the COTS vendors.
5. **Mobile Applications Development Services** is a new service area for the ITS Department. These services include working with City departments to develop mobile applications to meet a business need and the support of the applications after implementation.

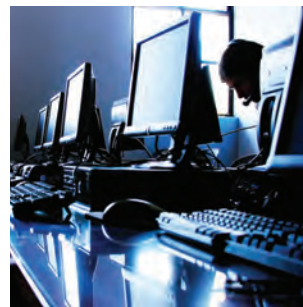
The Business Systems team supports over 52 applications used throughout the City. There are two main categories of software applications:

1. Enterprise applications that all City departments depend upon and, therefore, form the "core" of the City's software infrastructure such as the Oracle/PeopleSoft Human Capital Management (Human Resources/Payroll), the financial management system, and the document management system; and
2. Departmental applications that one or a few City departments rely upon for specific business processes such as the Tidemark permitting system, the MaintStar Public Works work order management system and the Human Services PsychConsult patient tracking system.

The relationship between enterprise applications, as well as between enterprise and departmental business applications, has been inconsistent due to incompatible technologies and decentralized software selection in the past years. The ITS Department is implementing a standard approach for future software applications to maximize interoperability and minimize support costs.

### *Infrastructure Services*

The Infrastructure Services division ensures that the computer, telecommunications, data network, and security systems are available to enable City staff to provide essential services to their customers. The Infrastructure Services division also maintains desktop applications that reside on the standard City computer image.



The City's computer inventory consists of 700 desktop computer, 137 laptops and tablets, 100 Police ruggedized laptops (mobile data computers), and 40 Fire ruggedized laptops. The useful life for computer equipment is five years. All computer systems run Microsoft Windows operating system (currently Windows 7), Microsoft Office (2010), and Microsoft Exchange 2010/Outlook electronic mail in addition to Sophos Anti-Virus software, Adobe Acrobat Reader, and Microsoft Internet Explorer.



The ITS Department also supports over 400 smartphones, both City-owned and personally owned devices, and electronic tablets. The Department is deploying a mobile data management system to more efficiently manage these devices and to provide a “City store” for downloading approved smartphone applications.

The City’s inventory of 129 network printers includes black and white laser printers, color printers, and color plotters. The useful life for printing devices is five years. There are also multi-function copiers that combine the functions of copying, printing, scanning, and faxing. These multi-function units are more cost effective than single function printers. The ITS Department is working on an initiative to reduce the number of network printers and stand-alone scanners by 40% over the next three fiscal years.

### **Service Delivery Areas**

The Infrastructure Services division provides support in five major areas that are described below:

1. The central **Service Desk** is the single point of contact to make it easier for customers to report incidents and requests related to technology. The central Service Desk reduces operational costs and improves usage of available ITS resources. The technicians coordinate and resolve reported incidents as quickly as possible over the telephone and through e-mail or remote desktop assistance. The Service Desk also provides assistance for other activities such as user account passwords and change requests. The technicians create a tracking ticket based on the type of service required and assign the ticket to the next level of support if they are unable to resolve the issue.
2. **Desktop** technicians are the first point of escalation if the Service Desk technicians cannot resolve the incident. The desktop technicians provide guidance and instruction to the Service Desk technicians to diagnose and resolve incidents as well as provide support based on tickets escalated by the Service Desk. The desktop technicians are also responsible for completing special projects such as major upgrades to operating system and desktop applications. The desktop technicians typically contact the customer to schedule an appointment for an on-site visit or provide support using remote desktop assistance.
3. **Network Services** includes all services to provide and maintain the City’s network infrastructure, which is based on Ethernet and consists of two core switches connected via a 2 Gbps wide area network (WAN) fiber link. The City’s workstations and servers connect to edge switches at 1 Gbps to each core switch. The fiber connects five City buildings: City Hall Administration, Development Services Center, Police Department, Maintenance Center, and Fire Station 1. The other 15 remote offices connect to the City’s main fiber infrastructure through T1 lines. The wireless infrastructure consists of 50 access points installed throughout 5 buildings. The routing and switching infrastructure is standardized on Cisco hardware.

The network engineers are responsible for the City’s wireless support, network security, and firewall configuration including intrusion prevention and intrusion detection through monitoring of the City’s network traffic. Network Services is also responsible for the administration of secure remote access for employees and vendors and of employee network and e-mail accounts as well as an e-mail filtering system that eliminates up to 15% of unwanted e-mail per week before it reaches the City’s network.

## Current Environment

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Network Services also provides after-hours support primarily for the Police and Fire Departments through a rotation of network engineers based on one-week assignments. Service levels for response to these departments are determined based on the severity of the incident.

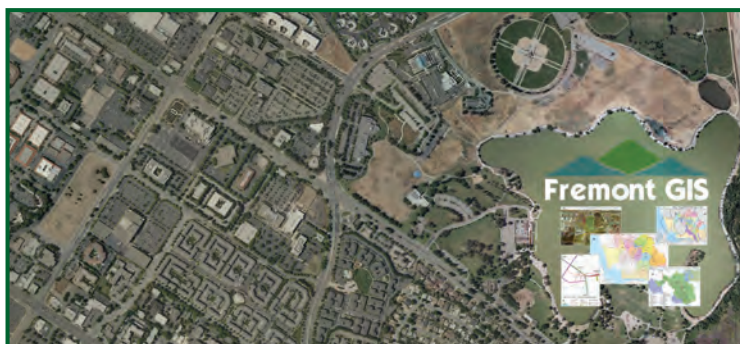
- 4. System and Storage Administration Services** includes server administration and management, testing, patch management, anti-virus monitoring, and operating system upgrades. The City runs a VMware virtualized server infrastructure with 90 virtual machines on seven physical host Dell servers that were recently replaced in 2013. There are also 15 physical servers that run some legacy applications (such as computer-aided dispatch) that currently cannot operate in a virtual server environment. The City standardizes on the Microsoft Windows Server operating system.

Storage administration includes configuration and management of the storage area network (SAN) and other storage systems and the system backup processes. The data storage infrastructure is built upon Xiotech SAN equipment and consists of 60 terabytes. The backup infrastructure consists of a EMC Data Domain backup appliance and EMC NetWorker backup software.

- 5. Telecommunications Services** supports over 16 data circuits, 40 T1 connections to City facilities, 5 Mitel telephone systems, and 965 handsets. The telecommunications technician is also responsible for the cabling and wiring throughout the City to ensure that standards are maintained.

### *Geographic Information Systems (GIS)*

The GIS division is responsible for developing and maintaining geospatial data while delivering simple, interactive mapping tools to enable City employees and citizens to seamlessly access, query, and visualize the information.



### Service Delivery Areas

The GIS division provides services in the following areas:

- 1. GIS Products and Services** include development and maintenance of GIS data, tools and models, and support for spatial and web applications. GIS products include the development of GIS tools and web-based applications and geo-processing models and customized spatial



data for computer applications. GIS services include generation and updating of data layers, building and maintenance of geo-processing models, custom map products, and authoring of metadata and other documentation. The GIS division is also responsible for reviewing street names and issuing addresses along with reviewing development projects following public safety guidelines.

2. **Enterprise GIS Project Support** includes the coordination and development of GIS data collected by other departments that is distributed to desktop computers or mobile devices for use in the office and in the field. Enterprise GIS support also distributes GIS-related software and licensing to all participating City departments, publishes City-generated GIS data to a centralized server environment to optimize system performance, develops custom GIS applications including two external GIS web-based applications used by Economic Development and developers, and coordinates training to City departments.
3. **Southern Alameda County Geographic Information System Authority (SACGISA)** is a joint powers authority (JPA) created in 2000 with four other local agencies: City of Union City, City of Newark, Alameda County Water District, and Union Sanitary District. SACGISA's primary purpose is to provide GIS services including parcel map updates, data layers, and GIS tools and models to all agencies for cost-effective delivery of services. The City of Union City withdrew from SACGISA in 2011; however, the other agencies remain dedicated to the original intent of the JPA.

The IT Strategic Plan identifies several high level initiatives and projects for GIS such as developing and maintaining more complex spatial databases and better interaction with business applications. The ITS Department intends to create a separate strategic plan for GIS to better clarify the direction and roadmap for this specific service delivery area.

### *Administrative Support*

The Administrative Support group is responsible for procurement, finance, budget, and the overall operations of the ITS Department.

## Current Environment

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### *Internal Information Technology Users*

One of the purposes of this IT Strategic Plan is to encompass the relevant business needs of all City information technology users. Therefore, it is important to understand the business goals and needs of the City's departments. A brief overview outlining those departmental goals and special information technology services and support needs are summarized in this section.

#### **City Manager's Office**



Provides support and advice to the City Council; manages and coordinates citywide service delivery; leads efforts to promote communication and to publicize the City's programs, services and best practices; and provides leadership to departments and City activities.

Special technology needs include social media tools, methods for community engagement such as open data and mobile applications, and citywide applications such as a citizen/customer relationship management system.

#### **City Attorney's Office**

Provides a full range of legal services to the City. The City Attorney's Office advises the City Council, commissions, boards and all City departments on legal matters such as land use and environmental regulations, special development projects, potential liability for City actions, and compliance with federal and State laws as well as employment laws. The City Attorney's Office also provides risk management services to the City.



The City Attorney's office relies on technology solutions such as a contract management system, records management, eDiscovery, electronic mail archiving, and risk management database.

#### **Office of the City Clerk**



Oversees the preparation of the City Council agenda, records the City Council's actions in official minutes, maintains a computerized legislative history, and safeguards official City documents. The City Clerk's Office manages and conducts elections and coordinates the City's Records Management Program as well as provides citywide mail services.

Special technology needs include systems such as electronic web-based automated agenda, document imaging management, and records management. The City Clerk's Office relies upon the audio visual systems in the Council Chambers used in the live broadcast of City Council and Planning Commission meetings and other presentations and meetings held in the City Council Chambers.

## **Community Development Department**



Provides planning, building and safety, community preservation, housing, and environmental sustainability services. The Community Development Department works to implement the City's goals as referenced in the General Plan to preserve open space and hillsides, maintain the community's historic town centers and characters, build high quality residential and commercial development in targeted areas, and maintain and expand the range of housing alternatives. The Department also plays a lead role in implementation of the Climate Action Plan adopted by the City Council in 2012.

Special technology needs include a robust land use management/permitting system built upon GIS as the foundation to replace an aging permitting system so that the system is fully integrated with other City enterprise applications. The new permitting system will foster better information and workflow and include a billing work order system to accurately track and charge back hours used by staff members in the Development Cost Center. The Community Development Department needs online permitting approval and 24/7 access by developers and the community. The Department uses radios and smartphones for communications in the field, tablets, document management and imaging systems, and automated agenda management for Planning Commission meetings. The Community Development Planning Division relies upon GIS data and mapping products including critical property attributes to perform its own geospatial tasks. The Department also works closely with the ITS GIS Division for addressing and street naming assignment in development and other planning projects.

## **Community Services Department**

Strives to enhance the quality of life for Fremont residents and its visitors by providing leisure activities, parks and community facilities, park and street median maintenance, community landscape architecture, and environmental services. The Community Services Department manages public use of recreation facilities and oversees the City's park system. The Department also provides performing and visual arts, sports, teen and early childhood development programs, academic enrichment, park visitors' services, and manages community centers, special facilities, and historic sites.



The Environmental Services Division is responsible for environmentally sound and cost-effective methods for the disposal of garbage and household hazardous waste, recovery of recyclables, waste prevention, and flow of clean storm water into streams and the San Francisco Bay.

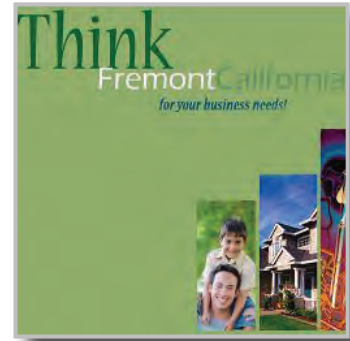
Specific technology needs include a class registration and facility reservation system that is available 24/7, work order management system, mobile applications to enable employees to work in the parks and outside areas, and GIS data and mapping services to analyze and display water shed areas, collection routes, location of trash capture devices, and landscaping assets. The Community Services Department relies upon social media to communicate real-time with its customers and for marketing purposes and wireless connectivity at parks, community centers, and other public facilities.

## Current Environment

### Economic Development Department

Proactively works with the business community, real estate brokers, developers, and property owners to create a supportive environment for desired retail, office, and technology industrial development. The Department serves as a liaison between property owners, developers, and City staff and assists with site selection, marketing, and permitting.

The Economic Development Department relies heavily on social media tools to reach out to the various groups and to promote the City, on databases for businesses including the business license application, and on GIS services that link and visualize multiple data sets together and provide this information to the business community. Additionally, the Department is working with IT Services to explore the feasibility of using the City's fiber infrastructure as a marketing tool to attract new businesses to the City.



### Finance Department



Provides financial information, policy analyses, and recommendations that help the City Council and all City departments make decisions about how to best allocate the City's resources. The Finance Department includes accounting of the City's resources, budget, purchasing and accounts payable, revenue collection and audit, and managing the City's investment, debt financing and banking functions.

The Finance Department uses technology services and support extensively. Technology systems include citywide financial management (general ledger, accounts payable, purchasing, budgeting, accounts receivable, fixed assets, etc.), cashiering, business license, online bidding, as well as interfaces with external systems such as banking and investment.

### Fire Department

Provides fire, medical, rescue, and life safety emergency services within the City. Fire Department outcomes include reducing casualties and the loss of life, improving patient outcomes, reducing property loss and damage, effecting successful extrications of trapped victims, and protecting the environment from the effects of hazardous materials release.

Information technology products and services are critical to the Fire Department that uses several primary systems: computer-aided dispatch (CAD) with data provided from GIS including address assignment following public safety guidelines, records management, the California Electronic Reporting System (CERS), GIS emergency coordination and custom mapping services, and staff roster/scheduling. The Fire Department relies upon other technologies including mobile data computers, radios, iPads, smartphones, fire station alerting, social media, and internal and external websites. The Fire Department also uses collaboration tools such as audio, video, and web conferencing to reduce the amount of time that firefighters need to travel to the main office for training and other general purpose meetings.





### Human Resources Department



Provides specialized assistance to all employees in employer and labor relations; citywide policy development; employee and organizational development and training; recruitment; examination, classification, and compensation; and benefits and payroll administration.

Special technology needs include the human capital management (HR/payroll) system for online benefits, online self-service time reporting for employees, and on-boarding for new employees; online recruitment system; FMLA (Family Medical Leave Act) reporting; and social media tools for increased outreach during recruitments.

### Human Services Department

Delivers and supports services by forging long-term community partnerships, engaging with and building the capacity of the community to do its own problem-solving, and leveraging financial and volunteer resources. The Human Services Department's major service areas include Youth and Family Services, Family Resource Center, Aging and Family Services, Mobility and Transportation Services, and City and Federal Grant Administration.



Special technology needs include a patient tracking system that meets the HIPAA (Health Insurance Portability and Accountability Act) security requirements; grant management; data integration, data sharing, and accessibility of data with external agencies; and social media tools to reach the public in multiple languages. The Human Services Department uses tablets for case workers and relies upon GIS for evaluating client location/distribution and for analysis around demographics.

### Police Department



Safeguards lives and property and enhances public safety. The Police Department's major service areas include patrol, investigation, traffic enforcement, 9-1-1 emergency services, and animal control. The Police Department also provides crime trend analysis, operates the School Resource Officer program, provides community engagement, and operates a detention facility.

The Police Department relies on several critical information technology systems and services including computer-aided dispatch with data provided from GIS, 9-1-1 telephone, radio, records management, GIS, crime analysis, video surveillance, digital imaging and management, and access to data through many external agencies. Other critical technologies used by the Police Department are case management, property management, report-writing, animal control application, mobile data computers, in-car video, license plate recognition, smartphones, a mobile command vehicle, geospatial data for emergency responses and crime analysis, and social media tools.

## Current Environment

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### Public Works Department

Maintains the City infrastructure, designs and constructs new or improved public facilities, manages a safe and efficient citywide transportation network, and reviews development projects in accordance with the Fremont Municipal Code and standards. The Public Works Department partners with regional transportation agencies to ensure that the City's interests are considered in major regional projects.

Special technology needs include a work order management system, fleet management system, computer-aided design for engineering projects, capital improvement program application, contract management, citizen/customer relationship management system, and mobile devices such as laptops, tablets, and smartphones. The Public Works Department relies upon radios and GIS, the City's network infrastructure for communications and security needed by the citywide traffic signal system, and mobile applications for access by field workers.



### *External Information Technology Users*

The City departments provide services to external users including residents, local businesses and industries, community organizations, and other governmental agencies. Technology has either a direct or indirect impact on the City's ability to deliver these services. The City Council's long-term outcomes include community engagement and fostering a dynamic local economy. The IT Strategic Plan recognizes the need to consider how technology can affect the external users and assist in achieving the City Council's goals.

# General Trends in Technology

## General Trends in Technology

The information technology industry is changing rapidly. Technologies such as data and voice are converging and now using a single network to send information and to place telephone calls. Almost every individual uses a smartphone or some type of mobile device to communicate, share, collect, and access information such as messages, photos, data, and videos.

To be successful on a long-term basis, this IT Strategic Plan acknowledges current and expected trends in order to position the City to take advantage of new and emerging technologies in a timely manner.

### *Increased Internet Speed and Bandwidth*

Over the past decade, we have seen a remarkable increase in network speed when accessing and retrieving data. We are transitioning into a population that will demand higher network speeds from home, work, and wireless devices. These increased network speeds create the expectation that the speed of the Internet experienced at home be equal to the network speed at the workplace.

### *Mobility and Wireless Applications*

As wireless networking speeds have increased, smartphones, tablets, and other mobile devices have evolved to process and deliver information that can take advantage of this increased power. Some of the vendors we currently work with offer a smartphone or mobile application. City employees who work in the field want to be able to access the application, which will increase efficiency and responsiveness to requests for repairs and information. Mobility also needs to address bring-your-own-device (BYOD) as organizations are expanding services available for smartphones and mobile devices.

### *“Cloud” Computing*

Everyone is talking about “the cloud”, and there are many definitions. Basically, cloud computing shifts the responsibility of data storage from internal to external resources with access using a web browser.

### *eCommerce*

The City should deliver as many services as practical to allow the community to conduct city-related business from home, work, or mobile device 24 hours a day, 7 days a week, 365 days a year.

### *Social Media*

Social media (Facebook, Twitter, LinkedIn, YouTube, Nixle) can provide a platform for citizen engagement and distribute information quickly. Social media also offers more image- and video-based communication.

## General Trends in Technology

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### ***Service Delivery Models***

There are several newer models available to deliver software and other IT services in addition to the traditional “on-premise” model. Cloud computing provides some unique opportunities to deliver services to the City’s customers. Software-as-a-Service (SaaS) enables users to access data from their applications using a web browser eliminating the need to physically install client software on a computer. Infrastructure-as-a-Service (IaaS) is the ability for the ITS Department to remotely create, access, and control the servers responsible for providing data and applications to users.

### ***Business Intelligence***

Today, we have access to a lot of data. Unstructured data (non-database items such as tweets, social media posts, Google searches, and other Internet data) will grow 80% over the course of the next five years, creating a huge IT challenge. It is difficult—if not impossible—to determine the most important data points. Business intelligence is a broad category of applications and technologies for gathering, storing, analyzing, and providing access to structured (in-house databases) and unstructured data to enable decision-makers to make better choices when evaluating business opportunities.

### ***Business Continuity***

Information technology departments are familiar with Murphy’s Law, which states that “what can go wrong, will go wrong”. It is safe to say that, at some point, computer systems will fail due to cyber-attacks, natural disaster or human error.

### ***GIS-Enabled Technology***

The integration of GIS interfaces and data into existing software and other applications represents a great opportunity for GIS to evolve into a critical pillar of data sharing and data collection.

### ***Collaboration***

Collaboration is an essential tool where users can collaborate over the telephone or video across multiple departments, sharing documents and other data from anywhere at any time.



# Vision, Mission, and Guiding Principles

## Vision, Mission, and Guiding Principles

### *IT Vision*

The City of Fremont Information Technology Services (ITS) Department's vision for technology will directly support and enhance the City's overall goals and objectives. The IT vision must be considered when making decisions about investments in technology and prioritizing projects. The IT vision for the City is:

*To become an integral partner with our customers and the community to enable the City to be recognized as a leader in technology that prides itself on innovation, transparency, and accountability.*

### *IT Mission*

The ITS Department delivers the best proven technology and services available for computer, data, telecommunications, mapping, and critical business systems of the City to employees and the public through excellent customer service, continuous improvement, innovative problem-solving, adherence to standardized information technology best practices, and collaborative solutions.

The ITS Department is committed to being a provider of critical services for all City departments. The technology services goals for the ITS Department are:



- Continue to align technology with the City Council priorities and the business goals of the organization.
- Build alliances with key decision-makers.
- Lobby for, and obtain, financial and other resources to deliver services and implement projects.
- Deliver quality customer service at all times.
- Promote a commitment to excellence.
- Assist in converting business requirements to technical needs.
- Provide innovative problem-solving solutions using proven technologies.
- Maximize the City's investment in technology.
- Develop and manage a technology infrastructure and processes to electronically preserve and share the extensive knowledge base of City departments.
- Maintain highly skilled and motivated information technology professionals.

# Vision, Mission, and Guiding Principles

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## *IT Guiding Principles*

The City's IT Guiding Principles are used to govern the daily actions of the ITS Department staff. The Guiding Principles are also used during the planning process to consider a project's relationship to the IT strategic initiatives before the project is approved and prioritized. The Guiding Principles are broken down into five main categories: organizational, infrastructure, data, application, and GIS.

### *Organizational Principles*

- 1 The City will be the “best” technology user, not the first technology user.
- 2 Technology solutions must add value, which means that the systems are cost-effective while optimizing usefulness.
- 3 Only proven technologies will be implemented for critical systems.
- 4 People are the key to success in any organization. Invest in training in parallel with technology to ensure that employees can use that technology effectively and proficiently.
- 5 Service level agreements will be developed with every City department to manage customer expectations.

### *Infrastructure Principles*

- 1 The City's IT infrastructure (data centers, networks, telecommunications, wireless systems, etc.) is the foundation of the City's operations and must be capable of delivering secure, innovative, and accessible systems.
- 2 The City's IT infrastructure must be secure, reliable, and disaster resilient to provide 24/7/365 online services.

### *Data Principles*

- 1 Access to information must be easily available anytime-anywhere to promote the City's well-being to enable day-to-day decision-making, enhance learning and cultural opportunities, and engage residents in civic participation.
- 2 Technical solutions should improve information sharing (as appropriate and ensuring confidentiality) across the City.
- 3 An information security strategy balances the need to minimize risk with the desire to maintain an open environment that facilitates the exchange of information.

### *Application Principles*

- 1 The City will purchase commercial off-the-shelf (COTS) software applications and minimize customization to reduce implementation and support costs, whenever available and practical.
- 2 Innovative solutions will use business intelligence, be web-enabled, and assure data integration with other applicable applications.
- 3 A hybrid of cloud computing, both public and private, and on-premise solutions will be implemented, whenever available and practical.
- 4 Maintain up-to-date capabilities of systems with software version upgrades.
- 5 Optimize application functionality.

### *GIS Principles*

- 1 GIS will be used as a foundation for representing spatial information in overall technology architecture.
- 2 Analysis of GIS solutions will be included as part of business process reviews.

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# Strategic Planning Methodology for Technology

## Strategic Planning Methodology for Technology

The City needs to establish a more formal structure for the decision-making process as it relates to new technology that includes a cross-departmental body that is responsible for decisions related to IT investments. Currently, technology projects are reviewed as part of the City's Capital Improvement Program (CIP), a process for whose primary purpose is to identify infrastructure and public works projects. The new structure should include a documented process that identifies a governing body, such as the City Leadership Team (CLT), and defines the processes by which it will make decisions to prioritize technology projects and related funding. This formal structure would also allow more transparency into the decision-making process and better facilitate the management of competing priorities within the various City departments.

The CLT consists of all department heads and is the body that is ultimately accountable for the day-to-day operation of the City and for the City's delivery of service to its citizens. For projects and initiatives that require funding and/or the implementation of new City-wide policy relating to technology, the CLT should be the decision-making body and make recommendations to the City Manager for approval and adoption in accordance with the City's budgeting and purchasing processes.

### *Project Initiation and Approval*

Departments should identify new projects and bring them to the ITS Department's attention on an annual basis. The ITS Director will review the new projects to make sure that they are aligned with the City's strategic plan guidelines and initiatives and submit them to the CLT who will recommend which projects should be considered to the City Manager. Departments may also identify new projects and submit them to the IT Services Department outside of the budgeting process. In some cases, the IT Services Director will work directly with the requesting department director to review the proposed project rather than bring the project to the CLT. An example is a project for which outside funding has been awarded and there is sufficient IT staffing resources in the current fiscal year to plan for and/or implement the new system with no impact on the planned projects for the year.

The City will acquire all technology systems in accordance with the strategies and guidelines contained in the IT Strategic Plan. This procedure ensures that the IT Services Department reviews software and other system purchases in order to determine that the purchase meets a strategic business need for the department and complies with the approved technology standards.

# Strategic Planning Methodology for Technology

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## *Project Review Criteria*

Based on limited resources and the increased demand for IT projects, this Plan presents the following criteria to be used for reviewing and approving projects:

- a) **Consolidation** – Technologies should achieve cost savings, improve performance, and mitigate risk.
- b) **Standardization** – New technologies should consist of the standard specification, standard test method, standard definition, or standard procedure in order to achieve and maintain interoperability.
- c) **Simplification** – The performance of a process involving a service or product that is least expensive in terms of effort, money and time, and consistent with the initiatives of the City.

Specific criteria to evaluate and prioritize each project are listed below.

### **1. Is the Project considered to be a Priority? Will it:**

- Enhance security
- Improve disaster recovery
- Support core business
- Increase compliance with laws and regulations
- Increase efficiency and return on investment
- Improve department infrastructure

### **2. What is the Scope of the Project? Does it:**

- Move toward a citywide solution
- Enhance multi-department business function
- Improve a single department

### **3. What is the Core Function of the Project?**

- Improve a citywide business process
- Represent a department's number one priority

### **4. What is the funding source?**

- Enterprise or non-General Fund
- Grant or non-City funded
- Cost Allocation Citywide
- Finance through bond/debt payment
- General Fund

### *Project Funding Strategies*

The City should continue to fund the replacement of technology infrastructure. Technology infrastructure includes all hardware and equipment (from the desktop to the data center) that ensure the City's technology users are able to access software applications. Data center hardware includes servers, routing and switching equipment, and data storage and backup equipment that support data management and data recovery. As the City's volume of data increases with the introduction of new applications, and as additional applications are integrated, the data storage and backup capacity must also increase.

Technology refreshment includes software in the way of updates, through software releases and patches, so that the applications remain current with vendor support agreements. These updates and patches are budgeted in the ITS Department's annual operating budget.

Many of the projects identified in this Plan are currently not funded. In order to provide adequate and intelligent business solutions, the City needs to focus its IT investments, while recognizing financial limitations, to maximize efficiency and effectiveness and reduce costs.

Currently, projects are funded from the following sources:

- General Fund – When the project has general citywide impact.
- State and Federal Agencies – The ITS Department works with City departments to identify alternative sources of funding including state and federal grants.

Other financial strategies should be considered:

- Over time, the City should include software applications in the technology replacement fund. This practice will enable the City to replace existing legacy applications without the need to compete for funding resources with other technology and citywide projects. The same methodology used for the replacement of technology infrastructure will be used; i.e., collecting an annual amount of replacement dollars for the software application based upon a useful life (in most cases, 10 years) that is allocated to the user department(s).
- Assess a technology fee on building permits for new construction to cover citywide IT services and projects such as GIS land base updates and Police Department dispatch consolidation.
- Develop bond/debt financing instruments for large infrastructure replacements and enhancements in order to complete high priority projects (such as replacing the fiber throughout the City) in the next five years while extending repayment over a longer period of time.
- Defer projects to later years through prioritization and planning.

The process for securing IT funding begins with each City department. During the budget cycle, the department identifies IT projects to be accomplished during the fiscal year for which the budget is being prepared. The ITS Department works collaboratively with each department to estimate the cost to implement the proposed project. The project costs are included in the ITS Department's budget request submitted to the City Manager and City Council for approval.

## Strategic Planning Methodology for Technology

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Projects that are submitted outside the annual budgeting process are unfunded unless there is funding available through another source such as a grant. Funding may also be provided by the requesting department through a reallocation of the department's approved funding. Based on the priority assigned to unfunded projects added to the project list, the ITS Director will work collaboratively with the requesting department to determine if additional funding is available from the department or if a reprioritization of projects already funded by that department should be changed to accommodate the new project.

The ITS and City departments will need to review and prioritize projects on an annual basis to identify reductions and/or reallocation of projects to meet budgetary constraints. If these strategies are not successful, the City will continue to defer and eliminate key projects.

### ***Project Management***

Project management is the discipline of planning, organizing, securing and managing resources to achieve specific goals. Ineffective project management can result in extended timelines, budget overruns, and project failures. The ITS Department has commenced utilizing a standardized method of initiating projects, monitoring, controlling, and/or reporting on project status, handling issue resolution and change control, and other activities considered integral to the project management process. However, the City as a whole needs to embrace this methodology that will determine how resources are being used, what the exact workload is at any given time, and whether or not resources are being allocated consistently with the priorities and needs of the City's overall business objectives.

Prior to initiating a technology project, a formal project charter should be completed to help ensure that the project is well defined. A project charter authorizes the project and ensures that necessary resources are provided to be successful. It provides a common understanding of what the project is about, why it is being done, who is involved, roles and responsibilities, schedule and delivery approach.

Once a project is initiated, the City should employ a standardized template for the project manager to track and report on project progress. At a minimum, the project manager should complete the following templates:

- Project Plan (inclusive of issues management, change management, risk management, etc.)
- Project Schedule
- Budget Tracking
- Project Status Reports

The use of a standardized project management framework will help ensure a comprehensive understanding of projects among stakeholders and impacted staff and help mitigate any risks to the project.

All IT projects are managed by the ITS Department together with a project manager assigned by the requesting department. The functional project manager should have the skill set and authority to effectively perform the required project duties. The project manager(s) should be accountable to the project sponsor(s) for updates.



### *Process Change Management*

One of the ITS Department's responsibilities is to provide support for process change within the City. People are the key to success in any organization. When new technologies are introduced to the City, change must be carefully considered as to its impact on the organization and addressed in the implementation of the new technology.

The ITS Department understands technologies used throughout the City and can take advantage of applying those technologies wherever possible. The ITS Department can assist departments with process change as it continuously researches emerging technologies. Information technologies such as shared databases and system integration can be used to improve existing information systems or eliminate the need for an outdated technology.

The process change strategy includes:

- **Communication** – Decision to change a process should be communicated to all affected employees as early and often as possible. The fear of change can be minimized with an effective communication plan.
- **Continuous Process** – To minimize disruption during a process change, an alternative solution should be used.
- **Project Management** – Process change needs management support, involvement, and a commitment to provide the resources to make the change happen.
- **Staff Skills** – It is important to understand the skills needed for staff to make the process change. This effort should begin as soon as possible after the possible change is identified.

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# IT Strategic Initiatives

## Section 6 – IT Strategic Initiatives

The City has the opportunity to improve the delivery of its services and better allocate its limited resources by recognizing the value of technology. Investment in technology can become a strategic empowerment tool rather than a standard “cost-cutting” tactic.

Through the collaborative engagement of the City’s department directors and managers, the following IT strategic initiatives were selected as they either enabled better service delivery citywide or created the potential for significant citywide savings:

- 1. Open Data Initiative***
- 2. Mobile Applications***
- 3. Enterprise Applications***
- 4. Business Intelligence***
- 5. Citywide Security Plan***
- 6. IT Fiber Optic Plant***
- 7. Voice over Internet Protocol (VoIP)***
- 8. Citywide Broadband and Wi-Fi***

### ***1. Open Data Initiative***

The creation and deployment of open data applications, using a warehouse of raw and machine-readable data, will enable the City to become more transparent. This initiative encourages application development by sponsoring community events and by providing an “application showcase” on the City’s website where applications that utilize City data are highlighted.

Greater transparency through access to the “raw data” enables more timely communication between the City and those wanting information. The traditional methods of requesting and obtaining information about the City are no longer adequate. Interacting with the City through the “warehouse” will enable individuals to get a more responsive, instantaneous answer to a question as well as enable a self-service for questions, comments, and analysis. Constituents will also be able to comment and make real-time requests directly to the responsible department through the Internet.

Expected benefits of this Open Data Initiative include improved accessibility of City services through channels such as mobile devices and social media tools including Facebook and Twitter. The Open Data Initiative will also reduce costs in that there will be less demand for City personnel to answer and provide common information. Engaging our community in developing applications that will use the “raw data” also means fewer City resources need to be invested in development or acquisition of software. It is important to note that the City must balance the accessibility to data with considerations of privacy and security.

### 2. *Mobile Applications*



Today's citizens are most likely to contact a government office from a smartphone or mobile device and, in most instances, are using a mobile application. Mobile applications are effective tools for citizens to receive information, request service, and report outages or needed repairs. Mobile applications are also used for more complex services such as providing real-time traffic information and location-based information such as crime data or park maps.

Many departments in the City are interested in developing mobile applications including Environmental Services, Police Department, Fire Department, Public Works, Community Development, and Community Services.

The City has limited IT resources and isn't necessarily in the position of developing its own applications. To supplement the IT resources to develop mobile applications, the City should consider joining other local agencies to create shared applications or to share the cost of services to customize and develop applications. In the process of selecting new or replacement applications, the City will include mobile functionality as one of the system requirements, where appropriate.

### 3. *Enterprise Applications*

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

The City is currently in the process of replacing the financial management system and will soon embark on replacing the land management (permitting) system that includes a customer relationship management (CRM) component. The new systems will more closely integrate with existing enterprise applications such as the Oracle/PeopleSoft Human Capital Management (HR/Payroll) system.

The City recently implemented functionality in the Oracle/PeopleSoft HCM system with eBenefits and self-service time reporting. eBenefits enables employees to complete forms online and eliminates the use of paper. Self-service time reporting eliminates the need for timekeepers in each department as each employee is now responsible and accountable for his/her own time resulting in improved efficiency and more effective use of limited staffing resources.

The benefits of implementing closely integrated applications results in decreased costs due to elimination of redundant functions and more resilient disaster recovery. In addition, integrated systems enhance collaboration functionality and leverage best practices in the respective areas of business.

#### ***4. Business Intelligence***

Information is one of the most valuable assets that the City has. Providing the right information to the right people at the right time can help the City gain more insight and drive better outcomes. A business intelligence solution will optimize hardware and software to deliver powerful processing and number crunching required for predictive analysis, social media analytics, modeling, hypothesis testing, and all other analytics operations. Dashboards and reports can be built by extracting necessary data from structured and unstructured data contained in all of the existing City systems.

The Police and Fire Departments are ready today to use business intelligence. The Police Department can use business intelligence for the traditional crime spotting using GIS and existing data to plot crime centroids and using modeling techniques to predict new centroids and enable more intelligent dispatching of resources. The Police Department can also use entity analytics that allows for multi-cultural name information and name matching of offender “signatures” to unsolved crime “signatures”.

The Fire Department can use business intelligence to reduce community risk by identifying and plotting fire and public health trends and obtaining actionable information necessary for decision-making in an all-risk fire department with finite resources for performance measures, resource allocation, and funding.

#### ***5. Citywide Security Plan***

The ITS Department is currently working on a citywide security plan that is related to several regulatory bodies including the FBI California Justice Information System (CJIS), Payment Card Industry (PCI), and Health Insurance Portability and Accountability Act (HIPAA). The security initiative also references best practices for security management published by the ISO 27002 (International Organization for Standardization) and NIST (National Institute of Standards and Technology).

Several recent incidents in security lapses in other agencies have highlighted the importance of establishing and implementing a comprehensive security plan. The effort includes revising existing security policies as well as creating new security policies to ensure the integrity and recovery of data, which is a valuable City asset. The initiative will also increase computing and networking performance by reducing inappropriate usage, providing better response to security incidents, and reducing the City’s exposure to security threats, both internal and external. Enforcement of IT policies, practices, and procedures ensures that systems are secure and risk is minimized.

The benefits of a comprehensive citywide security plan include the following:

- Reduction in exposure to unwanted intrusions.
- Increased confidentiality, integrity, and availability of enterprise networks and computing platforms.
- Reduction of security vulnerabilities in citywide network topology to an acceptable risk level.
- Creation of a citywide security awareness training program for employees on an annual basis.
- Enforcement of IT policies, practices, and procedures

### 6. *IT Fiber Optic Infrastructure*

The City's fiber optic infrastructure was installed in the early 1990s. The fiber cable transmits the City's data and voice telecommunications to multiple City facilities including the Police Department, Fire Station 1, Administration Buildings A and B, Development Services Center, Maintenance Center, Tennis Center, Boathouse, Teen Center, Animal Shelter, and Senior Center.



The average life span of fiber cabling is 20 to 25 years. As fiber ages, transmission quality of the fiber degrades resulting in the network equipment retransmitting information, which impacts users because there is a delay in delivering data to their workstations. There is a need to replace the existing fiber to facilities and expanding the fiber infrastructure to enable faster speed and increased bandwidth to other facilities.

Ten out of eleven fire stations are now connected to the City's infrastructure with T-1 circuits that are considered slow by today's transmission medium standards. Over the years, these circuits have failed due to the aging of copper cable strands in the streets. Replacing the existing T-1 copper circuits with fiber will enable the stations' personnel to engage in remote training and video conferencing, reducing the time away from the stations. The fiber optic infrastructure will also bring fiber to the Fire Training Center on Stevenson Boulevard to enable the Fire Department to lease the facility to other agencies for training exercises and thereby generate revenue for the City.

A new fiber optic plant will position the City with the needed infrastructure to use, or expand the use of, technologies such as teleconferencing, video surveillance, and GIS where large amounts of data are transmitted.

### 7. *Voice over Internet Protocol (VoIP)*

Voice over Internet Protocol (VoIP) is a technology that allows voice telephone calls, faxes, and video conferencing to be made over computer networks. Currently, the City operates several telephone systems with a hybrid of digital and IP telephone sets deployed to departments. A complete VoIP solution will enable the City to reduce infrastructure maintenance costs and provide a more resilient disaster recovery plan.



## 8. Citywide Broadband and Wi-Fi Access

The City will develop a plan to improve the accessibility to broadband (commonly understood as high-speed Internet) and wireless access (Wi-Fi) for public services and underserved members of the community. The broadband plan will explore business models on how the City can build and sustain municipal broadband services through a fully private network, public network, public-private partnership (such as “Lit San Leandro”, a fiber network that was built by one of the City of San Leandro’s largest employers), or partnership with other public entities such as the Fremont Unified School District.

The emerging use of video-based services, reliance on cloud computing, and public demand for interactive bandwidth intensive City services requires the City to look at increasing the availability of high-speed and reliable broadband services. In addition, there are certain parts of the City such as industrial locations and less populated areas that have less than adequate, or no, broadband services, which thereby affects the economic development of the City.

The ultimate goal of broadband access is to allow people to take advantage of its potential to improve the user’s experience for business development, education, or recreation. By expanding broadband and Wi-Fi capacity throughout the City, the following benefits can be realized:

- Departments will have access to required bandwidth to deliver services resulting in increased reliability and improved service response.
- Departments can implement new technologies and applications such as video surveillance.
- Enables the City to promote local economic development.
- Improved environmental sustainability.
- Enhanced quality of life factors through improvements to public health and public safety.
- Increased educational opportunities for residents.



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# Strategic Projects for Departments

## Section 7 – Strategic Projects for Departments

A strategic project is one that has the potential to provide significant benefits to the City and/or the customers it serves. The meetings with departments resulted in the identification and prioritization of strategic projects that will help ensure the City's technology environment supports current and anticipated business needs. These projects span across all departments and will improve services, operations, and/or increase the security and reliability of the existing and future technology environment.

These projects were prioritized based on criteria such as financial impact, health and safety impact, customer service impact, business operations impact, alignment to business vision and mission, and technology obsolescence. In addition to these criteria, the departments considered additional factors such as whether they will replace, enhance, or create new infrastructure, operating systems, or software applications. Consideration was also given to the limited resources (both human and capital) available to implement and manage technology projects. Each project was evaluated against these multi-criteria in order to determine its place and priority for inclusion in the five-year IT Strategic Plan. The actual start date of a project and the successful completion of these projects are dependent on funding or budget approval.

It is evident that there is a need to replace outdated and obsolete systems with systems that contain functions that currently do not exist. In some instances, such as the Oracle PeopleSoft Human Capital Management system, it is prudent to invest in the existing system to add new or substantially improved capabilities that are already contained in the application but are currently not being used or are being under-utilized.

Appendix A lists the projects by sponsoring department. In addition, the table provides a brief description of each project and estimated timeline for implementation. It should be noted that the City should identify and quantify any additional staffing or support requirements prior to implementing each project. This includes identifying necessary backfill of key project team members so that the regular ongoing operations can be maintained during implementation and training of staff to ensure ongoing support of the technology implemented.

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# Conclusion

## Conclusion

The City is positioned for success, beginning with the development of this IT Strategic Plan, starting with the City Council's Vision followed by the IT Vision, IT Mission, and Guiding Principles, which provide a roadmap for future IT investments. Through the strategies of consolidation, standardization, and simplification, the City can realize a fundamental shift from continued operational spending to new project delivery.

The next step in the strategic planning effort is to develop detailed implementation plans that identify specific actions, schedules and timeframes, and resource requirements such as staffing and funding for the projects identified in the Plan.

The IT Strategic Plan is the result of a collaborative effort across all departments. The success of this Plan is dependent upon that collaboration and the commitment of all City departments. The initiatives selected are those that are most critical to achieving the City's specific business goals. The ITS Department endorses the Plan and is committed to providing the leadership and support needed to ensure successful completion of the initiatives and projects and establishing a solid technology platform that will serve as a foundation for the future.



## Conclusion

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## Information Technology Strategic Plan – Projects

### Fiscal Years 2013/14 – 2017/18

Appendix A contains the projects that departments have submitted over the next five years during the development of the IT Strategic Plan. The projects are listed alphabetically by department and include the initiative identified in the Plan. Some of the projects have identified funding while funding for other projects needs to be determined.

| Project Name                                   | Description  | Initiative(s)           | FY<br>2013/14 | FY<br>2014/15 | FY<br>2015/16 | FY<br>2016/17 | FY<br>2017/18 |
|--|--|-------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>All Departments</b>                         |  |                         |               |               |               |               |               |
| Redesign City's Website                        | The City's website was designed in 2009 and is in need of a "refresh". The new site will take advantage of new functionalities that are available.   | Open Data               | X             |               |               |               |               |
| Citizen/Customer Relationship Management (CRM) | To provide a CRM for residents and other City departments to report issues and for City employees to track customer inquiries and action taken, increase efficiency of customer service by minimizing duplicate staff research, and enable easier follow-up.   | Mobile Applications     | X             |               |               |               |               |
| Open Data                                      | Create a portal on the City's website to place data (such as permit and budget information) to enable the public to access it to create applications.  | Open Data               | X             |               |               |               |               |
| Mobile Applications                            | Create mobile applications, such as for reporting graffiti and potholes, and road conditions.  | Mobile Applications     | X             |               |               |               |               |
| Business Work Order (BWO) System               | Currently a plug-in to the PeopleSoft application. May be a component of new financial management system.  | Enterprise Applications | X             |               |               |               |               |
| Document Management System                     | Replace the current Cimage document management system with a system that will provide access to the public to review plans and permits online and enable building plans to be scanned. Easier to search. May be a component of new permit system.  | Enterprise Applications |               |               | X             |               |               |
| Project Management                             | System to track capital project (all projects) status.   | Enterprise Applications |               |               |               | X             |               |
| Records Management                             | For paper and electronic documents.  | Enterprise Applications |               |               | X             |               |               |
| Data Warehousing, Reporting                    | A central repository of data for all City departments to easily access and allow generation of reports that combine data from multiple database systems.   | Business Intelligence   |               |               | X             |               |               |
| Business Intelligence                          | Need citywide BI solution to consolidate all data, both structured and unstructured, for a single warehouse to use for business decision-making. Refer to separate initiatives for Fire and Police.  | Business Intelligence   |               |               |               | X             |               |
| Citywide Broadband and Wi-Fi                   | Develop a plan to deliver high-speed internet services to under-served or unserved areas in the City of Fremont. Determine type of delivery such as private fiber network, partnership with a video service provider, or with a private company.   | Broadband, Wi-Fi        |               | X             |               |               |               |
| Citywide Fiber Network Infrastructure          | Replace aging fiber infrastructure that is 20-25 years old. Expand the fiber infrastructure by replacing T1 lines to offsite facilities with fiber for increased network speed. Will enable Fire to offer the Fire Training Facility to outside agencies to use for training, which will generate revenue for the City. Need to examine City's role in providing broadband services to support economic development. | Fiber Optic             |               |               | X             |               |               |

## Information Technology Strategic Plan – Projects

### Fiscal Years 2013/14 – 2017/18

Appendix A contains the projects that departments have submitted over the next five years during the development of the IT Strategic Plan. The projects are listed alphabetically by department and include the initiative identified in the Plan. Some of the projects have identified funding while funding for other projects needs to be determined.

| Project Name                                  | Description   | Initiative(s)           | FY<br>2013/14 | FY<br>2014/15 | FY<br>2015/16 | FY<br>2016/17 | FY<br>2017/18 |
|---|---|-------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>City Attorney's Office</b>                 |   |                         |               |               |               |               |               |
| E-Mail Archive                                | System to keep e-mails that are considered "records" with an eDiscovery component for public records searches.  | Enterprise Applications |               |               | X             |               |               |
| <b>City Clerk's Office</b>                    |   |                         |               |               |               |               |               |
| Agenda Automation, Video Streaming            | Replace the existing IQM2 MinuteTraq automated agenda system with a system that is more robust and includes indexing for better search and video streaming.     | Enterprise Applications |               |               | X             |               |               |
| <b>Community Development Department</b>       |   |                         |               |               |               |               |               |
| Land Management System                        | Replace current Tidemark permitting system.   | Enterprise Applications | X             |               |               |               |               |
| <b>Community Services Department</b>          |   |                         |               |               |               |               |               |
| Facilities Reservation                        | System to enable public and City employees to reserve park and building facilities online.  | Enterprise Applications |               |               | X             |               |               |
| Class Registration System                     | Replace current ActiveNetwork CLASS registration system.  | Enterprise Applications |               | X             |               |               |               |
| <b>Finance Department</b>                     |   |                         |               |               |               |               |               |
| Business License System Upgrade               | Upgrade HdL to HdL Prime.   | Enterprise Applications |               | X             |               |               |               |
| Budget System                                 | Implement a budget system. May be a module of the new financial management system or a separate system integrated to the new financial management system.       | Enterprise Applications |               | X             |               |               |               |
| Financial Management System                   | Implement a system that easily tracks budget vs. expenditures, PO status, provides copies of financial documents only, easily exports information (PDF, Excel). | Enterprise Applications | X             |               |               |               |               |
| <b>Fire Department</b>                        |   |                         |               |               |               |               |               |
| Fire Data Analytics                           | System to capture key performance metrics for the Fire Department.  | Business Intelligence   | X             |               |               |               |               |
| California Electronic Reporting System (CERS) | Install new comprehensive web-based data management and reporting system to comply with CalEPA requirements.  | Enterprise Applications | X             |               |               |               |               |
| MDC Replacement                               | Replace existing Panasonic Toughbooks with iPads for use with CAD.  | Infrastructure          | X             |               |               |               |               |
| TeleStaff Enhancements & Database Conversion  | Implement enhancements to TeleStaff rostering and scheduling system and convert database from proprietary database to Microsoft SQL Server.                     | Enterprise Applications | X             |               |               |               |               |

## Information Technology Strategic Plan – Projects

### Fiscal Years 2013/14 – 2017/18

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| Project Name  | Description  | Initiative(s)           | FY<br>2013/14 | FY<br>2014/15 | FY<br>2015/16 | FY<br>2016/17 | FY<br>2017/18 |
|---|--|-------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Human Resources Department</b>                             |  |                         |               |               |               |               |               |
| Neo-Gov Recruitment System Integration                        | Integrate recruitment system with PeopleSoft HR/Payroll system.  | Enterprise Applications |               | X             |               |               |               |
| Employee On-Boarding  | Create on-boarding page in PeopleSoft to expedite the hiring process by integrating online applications with HR processes and automating the many HR forms required to complete the hiring process.  | Enterprise Applications | X             |               |               |               |               |
| Manager Dashboard   | To provide an at-a-glance view of important information to help managers know where they need to focus.  | Enterprise Applications |               | X             |               |               |               |
| PeopleSoft Upgrade  | Upgrade to Version 9.2.  | Enterprise Applications |               |               | X             |               |               |
| Performance Management System                                 | Provide a system to allow managers to complete performance plans and reviews online and provide workflow and automated approval.   |                         | X             |               |               |               |               |
| <b>Human Services Department</b>                              |  |                         |               |               |               |               |               |
| Client Tracking System  | Replace current PsychConsult system.   | Enterprise Applications |               | X             |               |               |               |
| Data Sharing for HIPAA Compliance                             |  | Open Data               |               | X             |               |               |               |
| <b>Information Technology Services Department</b>             |  |                         |               |               |               |               |               |
| Citywide Mobile Technology Strategy                           | Establish mobile computing standards and processes to support field staff in accessing information in the field as well as supporting the electronic collection of information to reduce paper-based processes. Includes standards for developing mobile apps for use on iPads or other devices to access applications while in the field. | Mobile Applications     |               | X             |               |               |               |
| Citywide Technology Training                                  | Develop and implement a formal training plan to address ongoing training (classroom, online) needs of department staff. Project includes development of a knowledge center (UPK).  | Enterprise Applications |               |               | X             |               |               |
| Telephone System, Voicemail System                            | Replace existing hybrid digital/IP telephone systems and voicemail systems with full IP-based system and handsets including collaboration tools such as audio/video/web conferencing.  | VoIP                    |               |               | X             |               |               |
| Applications Portfolio  | Create an applications portfolio that identifies all systems used by the City. Data includes original purchase date and cost, upgrades including date and cost, whether application meets ISP3 and strategic requirements, keep or replace.  | Enterprise Applications |               | X             |               |               |               |
| Information Security Policy, Procedures, and Practices (ISP3) | Develop and implement security policies, procedures, and practices to ensure that the City meets compliance requirements for DOJ, HIPAA, and PCI. Policies include change management, incident response, etc. Initiative will also prepare security awareness training for all City employees.   | Citywide Security       |               | X             |               |               |               |
| Password, User Account Security Policy                        | Need to implement new password and user account security policy to meet DOJ/CLETS requirements for PD as well as compliance with HIPAA (Health Insurance Portability and Accountability Act) and PCI (Payment Card Industry).  | Security                | X             |               |               |               |               |



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|---|---|-------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Information Technology Services Department (continued)</b> |   |                         |               |               |               |               |               |
| Business Continuity Plan, Disaster Recovery                   | Update the IT Business Continuity Plan and Disaster Recovery Plan to ensure timely recovery of critical applications in the event of an unplanned event or outage based on identified business and operational priorities.  | Security                |               | X             |               |               |               |
| Mobile Data Management Solution                               | Implement a MDM to manage smartphones and mobile devices that access the City's network and e-mail system. Also, manage applications that employees can download so that the City remains compliant with software licensing. Includes drafting a "mobile device" policy or incorporating language for "bring your own device" (BYOD) in existing A.R. 1.14. | Security                | X             |               |               |               |               |
| GIS   | Update system to ensure reliable, timely, accurate information. Integration with City applications, training, and self-help tools made available. Enable use with web browsers (Firefox, Safari) in addition to MS Internet Explorer. Easier for user to create maps. More layers.  | Open Data               | X             |               |               |               |               |
| Multi-Function Print/Copy/Scan/Fax Devices                    | Complete an assessment of existing systems installed throughout the City including the cost of operations (service, consumables, energy, etc.). Research value of a managed print services contract for devices.  | Infrastructure          |               | X             |               |               |               |
| <b>Police Department</b>                                      |   |                         |               |               |               |               |               |
| 2-Factor Authentication                                       | DOJ CLETS security requirement for 2-factor authentication by September 2014 to access CLETS database.  | Security                | X             |               |               |               |               |
| Staff Roster, Scheduling System                               | Implement TeleStaff for PD sworn personnel to manage scheduling including overtime and shift assignments and to automatically prepare rosters.  | Enterprise Applications | X             |               |               |               |               |
| Facial Recognition  | Application on smartphones.   | Mobile Applications     | X             |               |               |               |               |
| Video Surveillance  | Video surveillance in neighborhoods.  | Security                | X             |               |               |               |               |
| Business Intelligence   | Deploy predictive analytics for Crime Spotting Time and Space analytics, entity analytics, and social network analytics for decision management.  | Business Intelligence   |               | X             |               |               |               |
| Cloud Forum   | Based on Berkeley PD Cloud Forum, develop a website for only PD to access as a bulletin board for daily rosters, bulletins, and other information to replace existing paper documents and systems.  | Business Intelligence   | X             |               |               |               |               |
| Dispatch Consolidation with Union City, Tiburon Upgrade       | Two part project to provide dispatching services to Union City, need to upgrade CAD and RMS systems to handle multiple agencies. 1st Phase is an interim solution to begin dispatching during certain times of the day. 2nd Phase is upgrade to new version for complete dispatching.   | Enterprise Applications | X             |               |               |               |               |
| Data Sharing with Law Enforcement Agencies                    | Large data sharing with agencies in Alameda County for better crime analysis abilities.   | Open Data               |               | X             |               |               |               |
| Crossroads  | Phase 2 - Work with Courts and Crossroads to interface from Crossroads Citations to Court so printing hard copies no longer required. Phase 3 - Mobile Traffic Accidents, interfaces for Crossroads to Tiburon and CHP.   | Open Data               |               | X             |               |               |               |

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|---|---|-------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Police Department (continued)</b>                                    |   |                         |               |               |               |               |               |
| Digital Evidence Storage  | Combine all digital evidence storage into Coban document management system.   | Infrastructure          | X             |               |               |               |               |
| Dual-Verification-Vehicles  | Dual-verification procedure-development of process to enter CJIS on vehicle MDTs.   | Security                | X             |               |               |               |               |
| Motorcycle Cameras  | Research and buy either recording equipment for motorcycles or a personal recording capability.   | Infrastructure          | X             |               |               |               |               |
| 911 Phone System  | Update our current 9-1-1 phone system to Next Gen.  | Enterprise Applications |               |               | X             |               |               |
| Logger  | Hardware/Software that records/stores all of PD's radio and 9-1-1 audio files. Upgrade or new equipment would need to be purchased to coincide with 9-1-1 phone upgrade.        | Enterprise Applications |               |               | X             |               |               |
| GIS Mapping   | Enhanced mapping application to plot 9-1-1 callers. (Currently have funding, waiting upgrade to Next-Gen to utilize funds.)   | GIS                     |               |               | X             |               |               |
| Patrol Briefing Room AV Upgrade   | Purchase equipment to improve current AV equipment and install teleconference equipment.  | Infrastructure          | X             |               |               |               |               |
| Emergency Operations Center Upgrade                                     | Necessary improvement to City's EOC facility.   | Infrastructure          |               | X             |               |               |               |
| In-Car Digital Video Recording System, Automated License Plate Readers. | Installation and implementation of in-car digital video recording system and Automated License Plate Readers (ALPR).  | Infrastructure          | X             |               |               |               |               |
| Chameleon   | Replace current system that tracks pet licenses and other shelter-related activities.   | Enterprise Applications |               |               | X             |               |               |
| Property and Evidence software (Tiburion)                               | Upgrade or replace current "Property and Evidence" program that is used to track property/evidence that is entered, stored, released, or destroyed.                             | Enterprise Applications |               |               | X             |               |               |
| Wireless Property Management System                                     | Purchase a program that would allow Property Officers to manage property through a Wi-Fi-enabled device, such as an iPad, so work could be completed remotely in the warehouse. | Wi-Fi                   |               | X             |               |               |               |
| Police Campus Video Surveillance  | Purchase a program/cameras that would allow the live viewing and storage of critical areas throughout the Police campus - front lobby/parking lot, access gates, jail, etc.     | Security                | X             |               |               |               |               |
| Digital Signage System  | Create a digital signage system throughout the PD campus for emergency notifications and to share critical information.   | Infrastructure          | X             |               |               |               |               |
| Online Electronic Payments – Alarms                                     | Research, design, and implement system to electronically 1) capture alarm registration information and 2) allow residents to pay for alarm permit fees.                         | eCommerce               |               | X             |               |               |               |
| Online Electronic Payments – Special Events                             | Research, design, and implement system to electronically 1) capture special event permit information and 2) allow applicants to pay for special event permit fees.              | eCommerce               |               |               | X             |               |               |

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|---|---|---------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Public Works Department</b>  |   |                           |               |               |               |               |               |
| 3D Mapping  | Multi-dimensional maps of City assets infrastructure so that staff can access information from their desks rather than in the field.  | GIS                       |               |               | X             |               |               |
| Capital Improvement System  | Replace current CIPace software with one that is integrated with other systems such as the financial management system.   | Enterprise Applications   |               | X             |               |               |               |
| Chemical Management Software/ Regulated Waste Management                    | Maintain inventory, exposure reports, storage site plans, and environmental reporting. Regulated waste reporting requirements. May be a component of new work order management system.                                  | Enterprise Applications   |               |               | X             |               |               |
| Contract Management Database  | Implement a database that tracks pertinent contract information for more effective contract administration. May be a component of new financial management system.  | Enterprise Applications   |               |               |               | X             |               |
| Fleet Management System   | Replace current Faster system that captures labor, parts, and fuel costs for fleet management.  | Enterprise Applications   |               |               | X             |               |               |
| Keycard System  | Replace existing Andover Continuum building security system (keycard) with a system that will integrate with the PeopleSoft system.   | Infrastructure            |               |               |               |               | X             |
| Live Video Streaming/Video Surveillance                                     | Feed live stream video from Transportation's network of CCTV cameras via the City's website (internal initially, external ultimately). Video surveillance in neighborhoods.   | Infrastructure / Security |               |               |               |               |               |
| Online Training   | Provide training videos for fuel, waste inspection, and fuel equipment.   |                           |               |               |               | X             |               |
| Transportation Performance Data Collection, Storage/Archiving, and Analysis | Near-live tracking of vehicles on city streets to produce instantaneous performance data such as vehicle speeds, delays, travel time, congestion hot spots, and travel patterns.  | Infrastructure            |               |               |               |               | X             |
| Transportation Permit   | On-line completion, submittal and payment of Transportation Permit.   | eCommerce                 |               |               | X             |               |               |
| Talk-to-Text Software   | Improve/allow communication with hearing impaired.  | Infrastructure            |               | X             |               |               |               |
| Work Order Management   | Replace current MaintStar system for a more user friendly, automatic data capture, and use of mobile applications. Improve functionality to include inventory of buildings, project management, and life cycle costing. | Enterprise Applications   |               |               | X             |               |               |